

# The Mining Journal,

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2627.—Vol. LV.

LONDON, SATURDAY, DECEMBER 26, 1885.

PRICE ..... SIXPENCE.  
BY POST, £1 4s. PER ANNUM.

**MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING STOCKS and SHARES (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.  
BUSINESS negotiated in STOCKS and SHARES not having a general market value.  
Every week a GENERAL and RELIABLE LIST issued (a copy of which will be forwarded on application), containing closing prices.

### MINES INSPECTED.

**BANKERS:** CITY BANK, London—SOUTH CORNWALL BANK, St. Austell.  
Address for Telegrams—"CROFTS, LONDON," Telephone Number 1003.

### SPECIAL DEALINGS in the following (or part):—

|                           |                               |                          |
|---------------------------|-------------------------------|--------------------------|
| 70 Albion Gold.           | 50 Home Mines Trust.          | 25 Phoenix United.       |
| 70 Alkano, 1. pd.         | 250 Indian Consol.            | 30 Panulillo.            |
| 50 Almada (New).          | 50 Javali.                    | 75 Prince of Wales.      |
| 25 Bedford United.        | 25 Killifreth.                | 50 Pestarens.            |
| 50 Balkis.                | 25 Kim, North Block.          | 20 Rio Tinto.            |
| 30 Birdseye.              | 70 Kohinoor B.                | 50 Ruby (New).           |
| 50 Bratsberg.             | 80 La Plata.                  | 30 Richmond.             |
| 50 Carn Camborne.         | 30 La Trinidad.               | 20 Rom Gravel.           |
| 70 Callao Bie, 17s. paid. | 25 Leadhills.                 | 30 Schwab's Gully.       |
| 50 Carthage, fully paid.  | 150 Liabon-Berlyn (New).      | 120 Shepherds United.    |
| 50 Colombian Hydraulic.   | 25 Marke Valley.              | 100 Spitzkop.            |
| 15 Cape Copper.           | 50 Mason-Barry.               | 30 So. Condarrow.        |
| 100 California.           | 50 Montana.                   | 50 South Darren.         |
| 50 Colorado.              | 50 Mysore Gold.               | 50 Tacuash.              |
| 25 Chontales.             | 150 Mysore Reefs.             | 60 Tambracherry.         |
| 25 Copiapo.               | 50 New Chile, 18s. pd.        | 20 Tolima A.             |
| 25 De Beer's.             | 100 Nacupai.                  | 10 ditto B.              |
| 100 Denver.               | 50 New Caradon.               | 50 Transvaal Gold.       |
| 50 Devala Moyer.          | 50 New Emma.                  | 30 Trevaunance.          |
| 25 Devon Consols.         | 25 New Kitty.                 | 50 Un. Mexican.          |
| 75 Devon Friendship.      | 50 Nouveau Monde.             | 25 Van.                  |
| 20 Dolcoath.              | 50 New West Caradon.          | 50 Victoria Gold.        |
| 50 Drakewalls.            | 50 Nine Reefs.                | 200 Wentworth, fully pd. |
| 50 East Blue Hills.       | 50 Oregum.                    | 20 West Basset.          |
| 50 Eberhardt.             | 20 do. Pref.                  | 20 West Godolphin.       |
| 25 East Lovell.           | 100 Organo.                   | 20 Wh. Grenville.        |
| 25 Ecton.                 | 50 Orita.                     | 20 Wheel Agar.           |
| 15 El Callao.             | 50 Oscar.                     | 30 Wheel Basset.         |
| 120 Frontino.             | 30 Oscar Vendors, fully paid. | 50 West Caradon.         |
| 50 Frongoch.              | 50 Par Tin, offer wanted.     | 20 West Kitt.            |
| 130 Gold Hill.            | 10 Great Laxey.               | 50 Wheel Coates.         |
| 50 Glenrock.              | 50 Gunnislake (Clitters).     | 50 Wheel Crebor.         |
| 10 Great Laxey.           | 50 Potosi (New).              |                          |
| 50 Gunnislake (Clitters). | 75 Port Phillip, off. wtd.    |                          |
| 25 Hoover Hill.           |                               |                          |

\* BUSINESS at CLOSE PRICES in all marketable TIN, COPPER, LEAD GOLD, SILVER, and DIAMOND SHARES.  
\* SHARES SOLD for the USUAL FORTNIGHTLY SETTLEMENT.  
\* SHARES SOLD AT SPECIAL PRICES FOR FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**HOME RAILWAYS.—FORTNIGHTLY ACCOUNTS OPENED**  
ON RECEIPT OF THE USUAL COVER.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**FOREIGN BONDS.—FORTNIGHTLY ACCOUNTS OPENED**  
ON RECEIPT OF THE USUAL COVER.  
ARGENTINE.  
EGYPTIAN UNIFIED.  
ITALIAN.  
MEXICAN.  
PORTUGUESE.  
\* SPECIAL BUSINESS in the above Stocks.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**BUSINESS in all AMERICAN RAILS, and SPECIAL BUSINESS**  
in Central Pacific, Denver, Erie Ordinary and Second Mortgage, Louisville, Milwaukee, Missouri, Kansas, and Texas, New York Central, Norfolk and Western Pref., Northern Pacific Pref., Ohio Pref., Ontario, Oregon Gold Mortgage.  
FORTNIGHTLY ACCOUNTS OPENED on RECEIPT of the USUAL COVER.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**GRAND TRUNKS.—SPECIAL BUSINESS and INFORMATION.**  
Fortnightly Accounts opened on receipt of the usual cover.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**MEXICAN RAILS.—BUSINESS done at CLOSE MARKET**  
PRICES in First Preference, Second Preference, and Ordinary Stocks.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**BANK, OMNIBUS, TRAMWAY, GAS, WATER, and CANAL**  
SHARES.  
BUSINESS in all the above, and fortnightly accounts opened.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**MISCELLANEOUS SHARES of all DESCRIPTIONS BOUGHT**  
or SOLD. SPECIAL BUSINESS in:—  
AQUARIUM. IRON and COAL.  
HOTEL. ELECTRIC LIGHT.  
And other COMMERCIAL or INDUSTRIAL SHARES.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**OPTIONS in all STOCKS and SHARES dealt in.—**  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**INDIAN GOLD SHARES.—SPECIAL**  
BUSINESS.  
Devala Moyer. Mysore. Oregum.  
Glenrock. Nine Reefs. Oregum Preference.  
Indian Consolidated. Nundyroog. Tambracherry.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**SCHWAB'S GULLY DIAMOND SHARES.—**  
DE BEER'S DIAMOND SHARES.  
SPECIAL BUSINESS in the above, either for CURRENT SETTLEMENT or for FORWARD DELIVERY (one, two, or three months), on DEPOSIT of TWENTY PER CENT.  
**JAMES H. CROFTS, 1, FINCH LANE, LONDON.**

**GOLD AND SILVER MINES.—INDIAN, NORTH AMERICAN,**  
SOUTH AMERICAN, WEST AFRICAN, SOUTH AFRICAN, and MEXICAN Mining Shares.  
BUSINESS as BUYER or SELLER in all the above.  
Shares Sold for Forward Delivery (one, two, or three months) on deposit of twenty per cent.  
**JAMES H. CROFTS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
No. 1, FINCH LANE, LONDON, E.C.  
ESTABLISHED 1842.  
LONDON BANKERS.—THE CITY BANK.  
Address for Telegrams—"CROFTS, LONDON."

### INDIAN GOLD MINES—SHAREHOLDERS AND INVESTORS.

IMPORTANT INFORMATION is given respecting the Gold Mines in MYSORE AND WYNAD DISTRICTS in THE BRITISH AND FOREIGN MONTHLY MINING NEWS for DECEMBER No. 333, which will be sent to customers and others on application to

**MESSRS. PETER WATSON AND CO.,**  
18, AUSTIN FRIARS, LONDON, E.C.  
Annual Subscription..... 5s. | Single Copy..... 6d.  
N.B.—IMPORTANT INFORMATION is also given in this number respecting LEAD, COPPER and TIN MINES, MINE SHARE MARKETS, &c.

### TO SHAREHOLDERS AND INVESTORS IN MINES.

**BRITISH, FOREIGN, AND COLONIAL MINES.**  
IMPORTANT INFORMATION TO SHAREHOLDERS AS TO PURCHASE or SALE of MINES SHARES at PRESENT PRICES.

**MESSRS. PETER WATSON AND CO.,**  
STOCK AND SHARE DEALERS,  
18, AUSTIN FRIARS,  
OLD BROAD STREET, LONDON, E.C.  
(Near to the Stock Exchange.)

OVER FORTY YEARS' EXPERIENCE in connection with BRITISH and FOREIGN MINE MANAGEMENT, and the STOCK and SHARE MARKETS. BUSINESS in all MARKETABLE MINE SHARES and STOCK EXCHANGE SECURITIES.  
SELECTED LIST of MINE SHARES for INVESTMENT or SPECULATION of TWELVE MINES sent ON APPLICATION, with a DAILY PRICE LIST of any Shares required by Customers and intending Purchasers.

**BANKERS:** The ALLIANCE BANK (Limited).  
Every information may be obtained on personal Application or by Letter as to Purchases and Sales of Mine and other Shares.

**MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,**  
3, GEORGE YARD, LOMBARD STREET, E.C.  
ESTABLISHED 1853.  
(NEARLY 19 YEARS in OLD BROAD STREET.)  
TELEPHONE No. 10,338.

**STOCK EXCHANGE SYNDICATES.**—Fully paid Shares, £5 each. Any number from 1 to 100 may be applied for. Each SYNDICATE will be closed, if possible, before the FORTNIGHTLY SETTLEMENT.

**MR. ALFRED E. COOKE can SUPPLY any SHARES** currently dealt in at LOWEST MARKET PRICE FREE OF COMMISSION.

**INDIAN GOLD MINES.—MR. ALFRED E. COOKE BUYS and SELLS** shares at CLOSEST NET PRICE. Telegrams receive IMMEDIATE PERSONAL ATTENTION.

**1886.—SPECIAL BUSINESS** for middle or end of JANUARY account on deposit of TEN PER CENT.

BUSINESS TRANSACTED at CLOSEST CURRENT PRICES, FREE OF COMMISSION, in all STOCK EXCHANGE SECURITIES either for SPECULATION or INVESTMENT.  
**ALFRED E. COOKE, 3, GEORGE YARD, LOMBARD STREET, LONDON.**  
ESTABLISHED 1853.  
**BANKERS:** ROYAL EXCHANGE (Limited), London.

**MR. JAMES STOCKER, STOCKBROKER,**  
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1851.  
**BANKERS:** LONDON AND WESTMINSTER.

**JOHN RISLEY, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
38, CORNHILL, LONDON, E.C.  
EAST BLUE HILLS and PRINCE ROYAL.—Specially recommended for investment.  
ESTABLISHED 1890.  
**BANKERS:** LONDON and WESTMINSTER, Lothbury, E.C.

**MESSRS. ENDEAN AND CO., STOCK AND SHARE**  
DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.  
ESTABLISHED 1862.  
**BANKERS:** LONDON AND WESTMINSTER, Lothbury, E.C.

**CHARLES J. SIMS, STOCK AND SHARE DEALER,**  
3, UNION COURT, OLD BROAD STREET, LONDON, E.C.  
ESTABLISHED 28 YEARS.

**BEAZLEY AND CO., STOCK AND SHARE DEALERS,**  
6 AND 7, COLEMAN STREET, LONDON, E.C.  
ESTABLISHED 28 YEARS.

BRITISH and FOREIGN MINE SHARES not quoted below BOUGHT and SOLD at CLOSE MARKET PRICES.  
ALL BUSINESS DONE at NET PRICES FOR CASH, ACCOUNT, OR FORWARD DELIVERY.

SELLERS and BUYERS should send FIRM ORDERS at once.  
BEAZLEY and CO. deal in the following shares, but, owing to CHRISTMAS HOLIDAYS, prices are not inserted this week. ANY QUOTATIONS will be TELEGRAPHED on application.

**BRITISH MINES.**  
Devon Consols. Leadhills. Van.  
Ecton. New Kitty. West Kitt.  
East Blue Hills. Prince of Wales. West Godolphin.  
Home Mine Trust. Prince Royal. Wheat Crebor.  
Killifreth. Roman Gravel. Wheat Metal.  
Shepherds United.

**INDIAN GOLD MINES.**—Messrs. BEAZLEY and CO. have large transactions in these shares, and are prepared to BUY and SELL at closest current price on receipt of wire or letter.  
Telegrams should be addressed—BEAZLEY, 6, Coleman-street, London.

**FOREIGN MINES.**  
Almada. Liabon Berlyn. Oscar, vendors.  
Bratsberg. La Trinidad. Orita, fully paid.  
Balkis. La Plata. Orita.  
Callao Bie. Mason and Barry. Organo.  
California. Mysore. Oregum.  
Colombian. Mysore Reefs. Ditto Preference.  
Colorado. Montana. Ruby.  
Cartago f. p. Nundyroog. Rio Tinto.  
Devala. Nouveau Monde. Russell Gold.  
Eberhardt. New Potosi. Santa Maria.  
Frontino. New Albion. Transvaal Gold.  
Glenrock. New Emma. United Mexican.  
Hoover Hill. Nine Reef. Victoria.  
Indian Consolidated.

INVESTORS should send for BEAZLEY and CO.'S LIST of CLOSEST PRICES, published every Wednesday, which will be forwarded on receipt of STAMPED DIRECTED ENVELOPE.

**BEAZLEY and CO.** are enabled by their extensive connection and long experience to afford their clients full advantage in BUYING and SELLING MINING SHARES.

**VICTORIA GOLD.**—Holders of SHARE WARRANTS who may not have received notice are advised that a MEETING of SHAREHOLDERS in this Company will be HELD on TUESDAY NEXT.

**INVESTMENTS.**—BEAZLEY and CO. BUY and SELL Three Per Cent. CONSOLS, ENGLISH, FOREIGN, and AMERICAN RAILWAYS, FOREIGN and COLONIAL STOCKS, BANK and MISCELLANEOUS shares at closest prices FREE OF COMMISSION.

**BEAZLEY and CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.**

**CASH PURCHASES.—SPECIAL FACILITIES for IMMEDIATE SETTLEMENT and DELIVERY of SHARES.**  
Shares supplied for FORWARD DELIVERY on BEST POSSIBLE TERMS.  
**BEAZLEY and CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.**

**MR. WILLIAM H. BUMPUS, STOCK BROKER**  
AND MINING SHARE DEALER,  
44, THREADNEEDLE STREET, LONDON, E.C.  
[Established at this Address in 1867.]

BUSINESS transacted in ALL STOCK EXCHANGE SECURITIES, MINING and MISCELLANEOUS SHARES of every description. An INVESTMENT LIST free on application.

**SPECIAL BUSINESS in the undermentioned:—**  
100 Almada, 5s. 6d. 20 La Trinidad. 50 Oregum, 19s. 6d.  
50 Bratsberg, 15s. 40 Leadhills, £2 18s. 9d. 50 ditto pref., 22s. 6d.  
70 Balkis, 4s. 9d. 100 La Plata, 6s. 1d. 50 Orita.  
100 Colombian, 9s. 20 Mysore, £3. 100 Oscar Gold, 6s. 6d.  
250 Chontales, 2s. 6d. 15 Mason and Barry. 75 Prince of Wales.  
20 Copiapo, £3 8s. 3d. 50 Montana, £3 5s. 30 Panulillo, £3 6s. 3d.  
10 Cape Copper, £2 2s. 150 New Hoover Hill, 9s. 9d. 100 Prince Royal.  
10 California, 3s. 6d. 50 New Albion. 10 Rio Tinto, £1 1 1/2.  
50 Callao Bie, 11s. 150 New Chile, 6s. 9d. 50 Richmond, £4 1/2.  
25 Devon Con., 46s. 3d. 50 New Kitty. 15 Roman Gravel.  
100 Denver, 1s. 9d. 100 New Emma, 7s. 100 Spitzkop.  
300 Dingley Dell, 3s. 6d. 250 New Lisbon, 2s. 9d. 30 Trevaunance, £2 1/4.  
75 Eberhardt, 2s. 6d. 100 New Potosi, 6s. 3d. 150 Transvaal Gold, 5s. 6d.  
50 East Blue Hills. 50 New Ruby, 9s. 6d. 50 Van, 32s.  
100 Frontino, 17s. 100 Nine Reefs, 18s. 9d. 10 Wh. Grenville, £18.  
103 Glenrock, 9s. 6d. 40 Nundyroog, £2. 103 W. Godolphin, 38s. 6.  
30 Great Holway. 150 Nouveau Monde, 3s. 15 West Kitt.  
100 Indian Cons., 23s. 9d. 200 Nacupai. 40 Wheel Crebor.  
50 Kohinoor B., 4s. 35 Organo, 20s. 6d. 50 Wentworth, 4s. 3d.

Where prices are not inserted offers may be made.  
**WHEEL GRENVILLE and WEST GODOLPHIN** shares recommended.  
**SPECIAL BUSINESS** at close prices, in the shares of INDIAN and other GOLD MINES, many of which offer chances of large profits.

Mr. BUMPUS devotes SPECIAL ATTENTION to LEGITIMATE MINES, and is in a position to afford reliable information and advice to intending investors, and others in the selection of Shares either for INVESTMENT or SPECULATION. Correspondence invited.  
ESTABLISHED 1867.

**MR. CHARLES THOMAS,**  
CONSULTING MINING AGENT AND ENGINEER,  
3, GREAT ST. HELEN'S, LONDON, E.C.

**MR. ALFRED THOMAS,**  
MINING ENGINEER, AND STOCK AND SHARE DEALER,  
10, COLEMAN STREET, LONDON, E.C.

JUST PUBLISHED. Entirely re-written, post free, One Shilling.  
**SPARE CASH: WHAT SHALL I DO WITH IT?** A work for the guidance of Investors.—Published by ALFRED THOMAS, M.E., 10, Coleman-street, London, E.C.  
"Invaluable to those who cannot attend the markets."

**ESTABLISHED 1852.**  
**MR. HENRY J. TALLENTIRE,**  
STOCK BROKER AND MINING SHARE DEALER.  
SPECIAL DEALINGS in all BRITISH and FOREIGN Mine Shares.  
EVERY INFORMATION and CLOSE PRICES upon application.  
OFFICES—21, THREADNEEDLE STREET, LONDON, E.C.  
**BANKERS:** CITY BANK, Threadneedle-street, E.C.

**INDIAN GOLD MINES.**—Considerable dealings will continue to take place.  
For special information and close prices apply to Mr. HENRY J. TALLENTIRE.  
Telegraphic Address—"Tallentire, London."

**JOHN B. REYNOLDS,**  
STOCK AND SHARE DEALER,  
37, WALBROOK, LONDON, E.C.  
ESTABLISHED 28 YEARS.  
**BANKERS:** LONDON JOINT STOCK.

Transacts business at net prices in all descriptions of Stocks and Shares, and holds himself personally responsible for the prompt completion of all Contracts, which he passes in his own name.  
Mines inspected in any part of the United Kingdom.  
Sellers and Buyers of Mining Shares will receive prompt attention.  
If in view of required, appointments desirable.  
All communications in strict confidence.  
Telegraphic Registered Address—"Burrall, London."

**MR. J. GRANT MACLEAN,**  
SHAREBROKER AND IRONBROKER, STIRLING, N.B.  
Refers to his Share Market Report on page 1464 of to-day's Journal.

**JOHN LENN AND CO. (LIMITED).**  
BANKERS, and DEALERS in STOCKS and SHARES.  
CIRCULAR POST FREE ON APPLICATION.

CONTAINS the latest prices of Stocks and Shares, and also shows at a glance the return per cent. of all the leading Securities.  
CONTAINS a List of Selected Investments paying from 5 to 20 per cent. per annum.  
IF CONTAINS a List of Stocks and Shares "Wanted" and "for Sale."  
SPECIAL DEALINGS in La Trinidad (Limited), Silver Queen United (Limited), Home Mines Trust, and other popular Investments.  
**JOHN LENN and CO. (Limited).**  
4 and 5, Grocers' Hall-court, London, E.C.

**MR. W. TREGELLAS, 40, BISHOPSGATE STREET**  
WITHIN, E.C.  
Deals in all descriptions of STOCKS and SHARES at close market prices.

**THOS. ELS AND CO., STOCK AND SHARE DEALERS,**  
6, BOND COURT, WALBROOK, LONDON, E.C.  
Daily price list may be had on application. Business in Foreign Stocks, Railways, and all Stock Exchange Securities at closest prices.

**MR. W. B. COBB, 29, BISHOPSGATE STREET, LONDON.**  
Special information and business in New Albion Gold, Tolima, Frontino, Colombian, and other Mines in the United States of Colombia.

**DE BEER'S DIAMOND MINING COMPANY'S SHARES.**  
Last Dividend declared, 6s. per share for the quarter ending September 30, being at the rate of about 25 per cent. per annum on the present price. The Company is doing extremely well, and can be highly recommended to investors, as the prospects are exceptionally good.  
For full particulars apply to A. JONAS, Stock and Sharebroker, 31, Holborn Viaduct. Telephone 6515. Telegraphic address—Softa.

**INVESTORS, CAPITALISTS, TRUSTEES**  
SHOULD READ OUR DECEMBER CIRCULAR (No 454), which contains important information regarding the movements of the Stock Market. The anticipations therein given have in almost every instance proved to be correct. Special information on Home and Foreign Securities, Grand Trunks, Mexican, and American. Selections also given of sound, high-class, Dividend-paying Securities for investment. Circular post free on application.

**ABBOTT, PAGE, AND CO.,**  
STOCKBROKERS,  
42, FOULTRY, LONDON, E.C.

**THE KOHINOOR AND DONALDSON CONSOLIDATED**  
MINING COMPANY (LIMITED).  
Notice is hereby given, that the ORDINARY GENERAL MEETING of the shareholders of the Kohinoor and Donaldson Consolidated Mining Company (Limited) will be HELD at Room 270, Bourse Buildings, 20, Bucklersbury, London, E.C., on TUESDAY, the 29th day of December, 1885, at Two o'clock in the afternoon precisely, for the purpose of receiving and considering the report of the directors and the statement of accounts made up to the 31st day of December, 1884, and for transacting the general business of the company.  
The Transfer Books of the company will be closed from the 22nd to the 29th day of December instant, both days inclusive.  
By order of the Board, W. H. ROWE, Secretary.  
37, Mansion House Chambers, 11, Queen Victoria-street, London, E.C.  
Dated this 18th day of December, 1885.



Medal at Boston Exhibition, 1883.

Gold Medal, International Health Exhibition, 1884.

Gold Medal, International Inventions Exhibition, 1885.

FIRST AWARD.  
SYDNEY. 1879.

BICKFORD'S PATENT FUSES

FIRST AWARD.  
MELBOURNE, 1881.FOR CONVEYING FIRE TO THE CHARGE  
IN BLASTING ROCKS &c. &c.  
OBTAINED THE FOLLOWING MEDALSSILVER MEDAL OF THE MINING INSTITUTE OF CORNWALL, TRURO, 1880,  
for an Improved Method of Simultaneous Blasting.

BICKFORD, SMITH AND CO.,

THE INVENTORS, AND ORIGINAL PATENTEES AND MANUFACTURERS OF

SAFETY AND INSTANTANEOUS FUSES AND IGNITERS

FOR USE IN ALL BLASTING OPERATIONS AND SPECIALLY PREPARED FOR ANY CLIMATE.

BICKFORD, SMITH AND CO.'S Patent Igniters and Instantaneous Fuses for simultaneous blasting are being extensively used at home and abroad. This improved method is the cheapest, simplest, and most dependable ever introduced for simultaneously firing any number of charges. For full particulars, see Descriptive Catalogue.

PRICE LISTS, DESCRIPTIVE CATALOGUES, AND SAMPLES TO BE HAD ON APPLICATION.

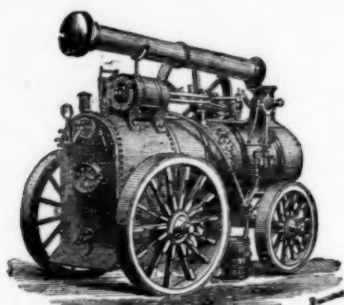
FACORIES—TUCKINGMILL CORNWALL; AND ST. HELENS JUNCTION, LANCASHIRE.

HEAD OFFICE—TUCKINGMILL, CORNWALL.

LANCASHIRE OFFICE—ADELPHI BANK CHAMBERS, SOUTH JOHN STREET, LIVERPOOL.

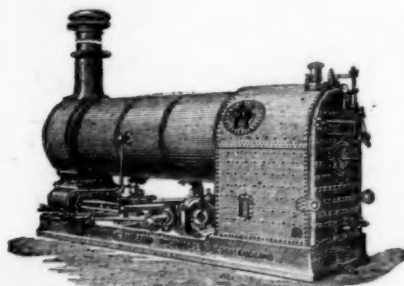
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Robey's Superior Portable Engines,  
2½ to 50-h.p.

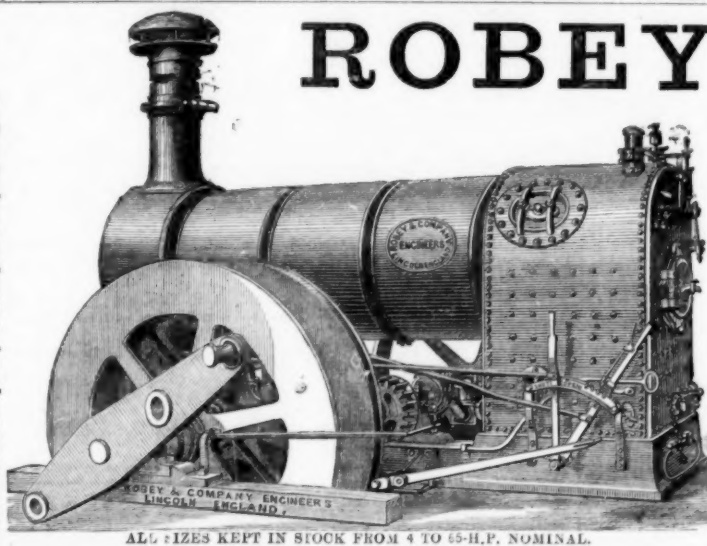
LONDON OFFICES:—

117, Cannon Street, E.C.

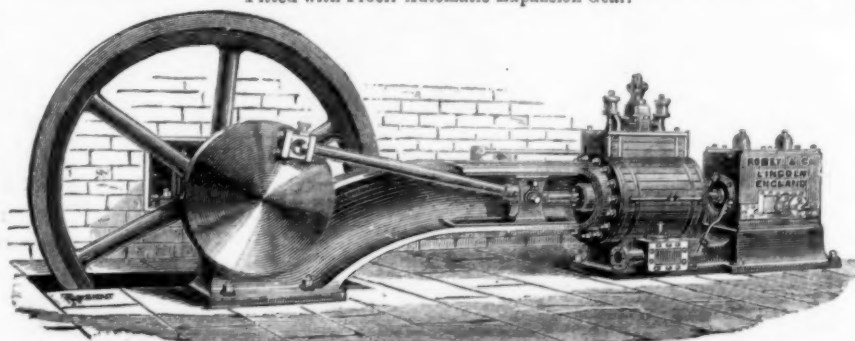
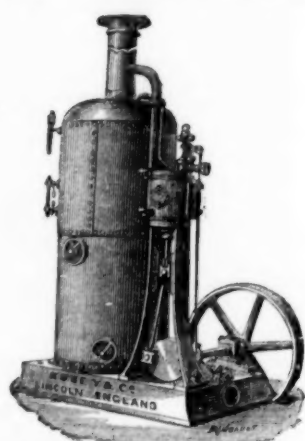
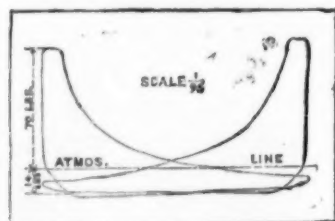
The Improved Robey Fixed Engine and  
Locomotive Boiler Combined, 4 to 65-h.p.,  
and Compound Robey Semi-fixed Engine.

Highest Award—GOLD MEDAL—Inventions Exhibition, 1885.

NOTICE TO COLLIERY PROPRIETORS, MINE OWNERS, &amp;c.

The PATENT "ROBEY" MINING ENGINE is complete in  
itself, ready for putting down and setting to work, either as a  
Permanent or Temporary Winding or Pumping Engine.

ALL SIZES KEPT IN STOCK FROM 4 TO 65-H.P. NOMINAL.

ROBEY'S IMPROVED HORIZONTAL FIXED ENGINE,  
Fitted with Pröell Automatic Expansion Gear.Please note this is the Original "ROBEY" Engine as de-  
signed and manufactured by Messrs. ROBEY and Co., of  
Lincoln. All others are mere attempts at imitation.Robey's Vertical Stationary Steam  
Engine, 1½ to 16-h.p.ROBEY & CO. LINCOLN, ENGLAND.  
Diagram from Fixed Engine, with  
Pröell Gear.

For particulars and prices apply to the Sole Manufacturers—

ROBEY AND CO., GLOBE WORKS, LINCOLN, ENGLAND.

Highest Award, Paris Electric Light Exhibition, 1881.

Gold Medal, Crystal Palace Electric Light Exhibition, 1882.

Gold Medal and Diploma, ditto, ditto, 1881.

JOHN SPENCER, Globe Tube Works, WEDNESBURY.

TUBES

MANUFACTURER OF  
WROUGHT IRON TUBES and  
FITTINGS for Gas, Steam, and  
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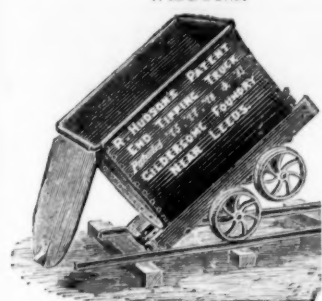
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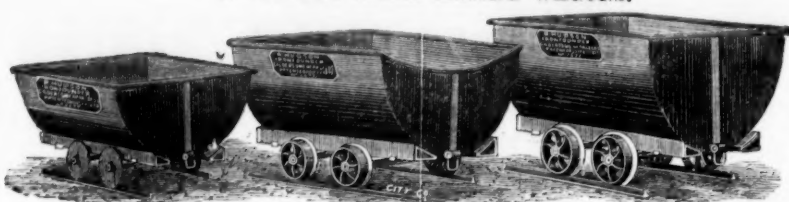
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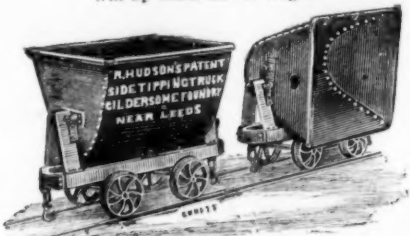
1.—PATENT STEEL END TIP  
WAGONS.



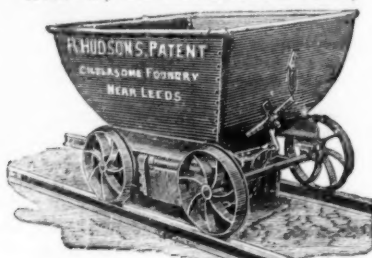
7.—PATENT STEEL MINING WAGONS.



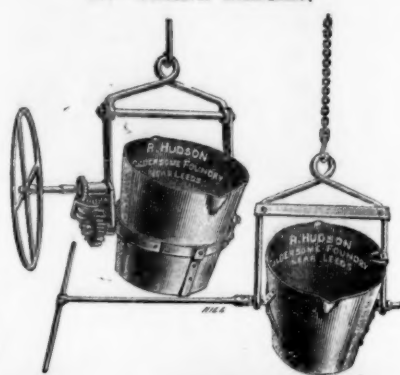
8.—PATENT DOUBLE-CENTRE STEEL  
SIDE TIP WAGONS.  
Will tip either side of Wagons.



12.—PATENT STEEL HOPPER  
WAGON, with BOTTOM DOORS.



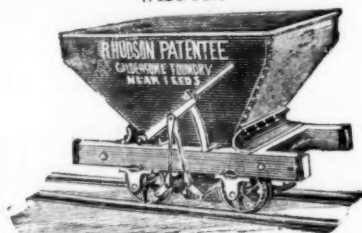
28.—CRANE LADLES.



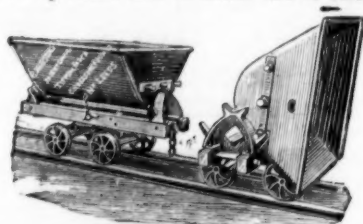
27.—HOPPER WAGON.



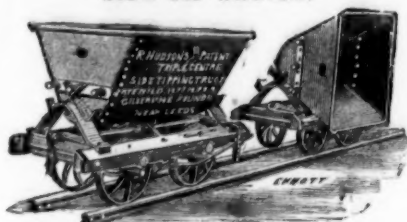
13.—PATENT STEEL HOPPER  
WAGON.



2. PATENT UNIVERSAL TRIPLE-CENTRE  
STEEL TIPPING TRUCK,  
Will tip either SIDE or either END of rails.



3.—PATENT TRIPLE-CENTRE STEEL  
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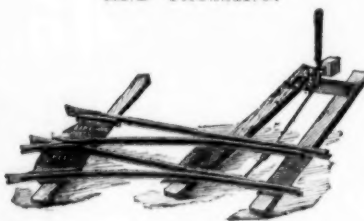
6.—ROBERT HUDSON'S  
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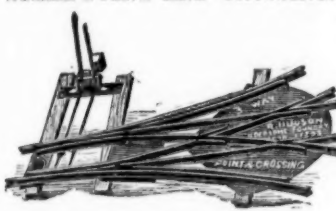


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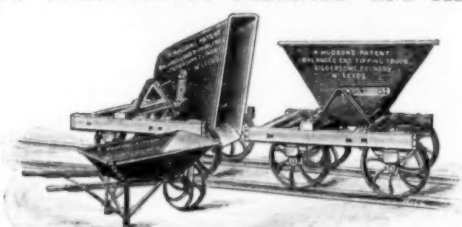
10.—LEFT-HAND STEEL POINT  
AND CROSSING.



11.—RIGHT AND LEFT-HAND  
STEEL POINT AND CROSSING.



24.—R. H.'s PATENT BALANCED END TIP.



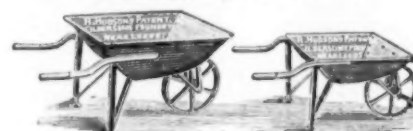
18.—"AERIAL" STEEL WINDING  
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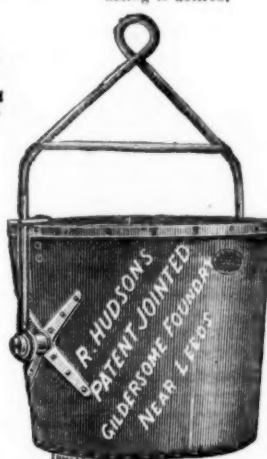
25.—PIG-IRON BARROW  
R. H.'s Patent



No. 22.

14.—SELF-RIGHTING STEEL  
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15.—R. HUDSON'S  
Patent Steel Cages  
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complete.

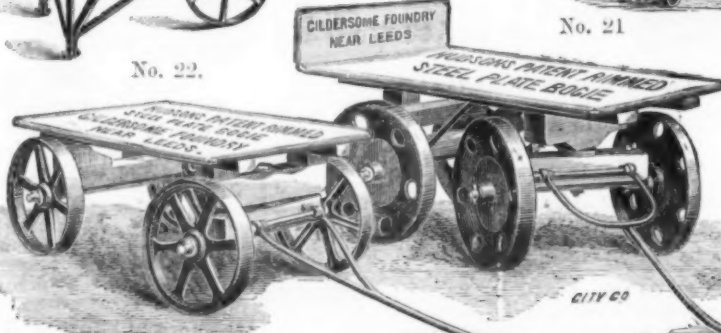


19.—PATENT STEEL CHARGING  
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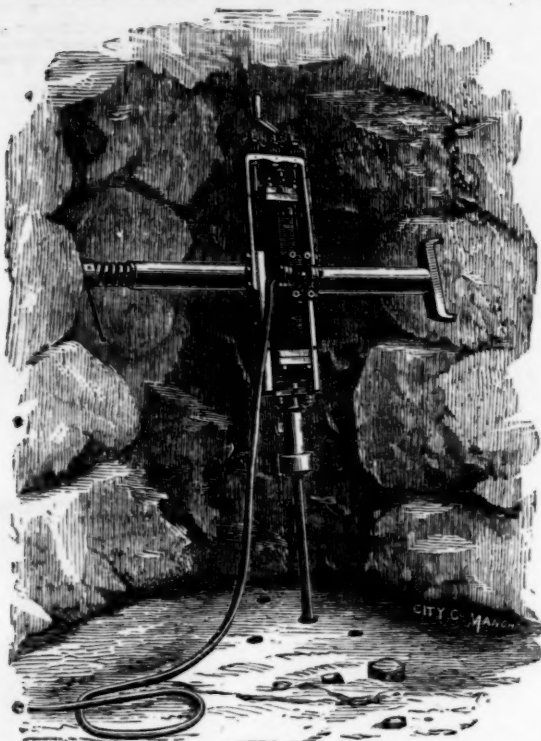
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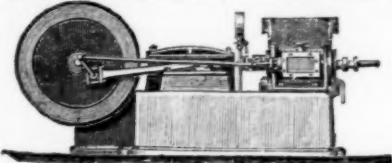
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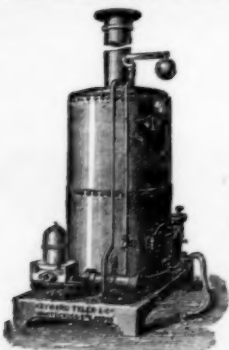
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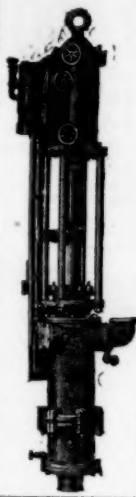
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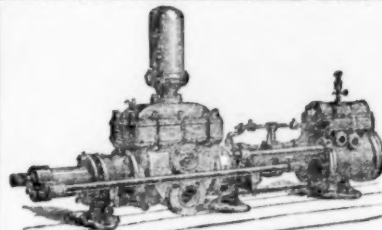
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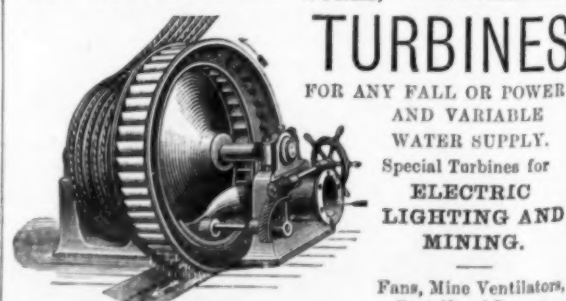
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## Original Correspondence.

### INDIAN GOLD MINING.

SIR,—The legitimate revival in Indian gold mining after the trying ordeal through which investors have passed, consequent on the many spurious concerns which have been foisted on the public during the past three years, is well calculated to cheer the hearts of all bona fide investors in gold mines, and it is, therefore, by no means surprising to see the outside public making a determined rush to get an interest in mines which are likely to recoup them for their losses in other parts of the world. During the past fortnight I have had abundant evidence of the strong feeling which has set in in favour of gold mines generally, and Indian gold mines in particular—in the overwhelming number of letters which I have received asking for my advice on the matter. I am sorry to say I cannot answer 1 in 20 of these letters; but I may inform the readers of the *Mining Journal* that in my opinion nothing that can be said or written about the Indian gold mines can ever place the matter more clearly and honestly before the investing public than has been done in the *Journal* of the 12th and 19th instant.

Brokers may, with their natural spirit of enterprise, issue stirring circulars, and promoters do all in their power to bring their own pet schemes to the front; but if investors will carefully read those articles and act on the advice they contain, it will be impossible for them to go wrong; they will have no difficulty in distinguishing the chaff from the wheat, and will be able to invest their money to good purpose. Nothing that I can write can possibly be of so much service to those who ask my advice as those articles. At the same time, while on this subject, it may be of interest to those who have not made gold mining a study if I refer to one or two points which have not hitherto been touched by any other authority. Investors ought always to bear in mind that there are two kinds of mining—prospective and profitable. In prospective mining, no matter what the character of the metal sought for, the most likely spots are selected in the best localities; experiments by pits or tunnels according to the nature of the locality are sunk or driven. If the person in charge knows his work the worthless concerns are dropped in season before any very serious expenditure is incurred, and place after place is tried until something really good is found. In this kind of mining, which may fairly be called preliminary, practical experience is invaluable, and often saves the industry from much odium, and the company from the loss of their capital. Investors ought never to lose sight of the fact that although the fortunes made by prospective mining are sometimes fabulous, there must always be a certain amount of risk about it. Profitable mining begins after the preliminary period, and is not attended with the slightest risk provided the management be placed in competent hands; but this applies equally to every other industry. There are a great many persons who have dabbled in mining all their lifetime who always begin with a flourish of trumpets, and end in disaster, and we have seen them recently crying out in sheer desperation, like the Prophets of Baal before Elijah, that there are no good mines, and they endeavour to destroy the industry which they have done so much to disgrace. I do not hesitate to say that for profitable employment of capital there is nothing equal to bona fide mining.

Now, in Indian gold mining the prospective or preliminary stage has been passed many centuries ago, and consequently it had to be approached in a somewhat different manner to those of the Australian or Californian gold fields, for while in the latter countries millions of pounds sterling was found lying on the surface; in India there has been nothing of the kind in our day. In fact, the prospects of gold found in the lodes near the surface would not pay; but there were other evidences which in the hands of experienced experts could not fail to be of great importance, and which, if read aright, would again place India amongst the great gold-producing countries of the day. Foremost amongst these experts was Mr. Brough-Smyth, for whom I have great admiration, and who I shall ever remember with profound respect. He saw that it must be a lode of no ordinary richness which induced the ancients with their primitive appliances to make such enormous excavations for such—to them—great depths, and in such very hard rock. It will I think be clear to most people that in attacking Indian gold mines no prospecting is necessary—the rich lodes from which the ancients obtained such large quantities of gold have simply to be reclaimed, and I have no doubt in my own mind that once reclaimed we, with our modern appliances, shall be able to raise very large quantities of gold at a splendid profit.

It is only a tribute to the memory of a good man when I say that the inference drawn by Mr. Brough-Smyth relative to the Indian gold mines generally has been fully borne out in the now-celebrated Mysore Gold Mine. I have frequently been twitted with not being sufficiently enthusiastic about gold mining; but my enthusiasm, as a rule, amounts to about 3l. 15s. per ounce for all the gold I find. At the same time I doubt very much whether it is possible to overestimate the value of the Mysore discovery in its relationship to Indian gold mining generally. In fact, I doubt very much whether one in a hundred can realise the value of the Mysore lode on its own intrinsic merits. They appear to write off 5 ozs., 6 ozs., or 7 ozs. of gold per ton in a lode 6 or 7 ft. broad, as if it were a matter of ordinary occurrence, but I may inform the readers of the *Journal* that it is not one gold mine in a thousand where the lode for 6 ft. broad yields even 5 ozs. of gold per ton. I have followed very carefully the Mysore reports from time to time, and judging from the even character of the lode there can be no difficulty in arriving at a valuation of the property. For example, assuming the lode to be

only 6 ft. broad, and the ore averages only 5 ozs. to the ton, the value per fathom would be at least 225l. I believe the lode in the Mysore can be traced for half a mile or more, but if we confine it to the limited extent of 100 fathoms in length every 6 ft. in depth for that length will be worth 22,500l. In mining of this kind it is consistent with the true principles of mining to sink the shafts and extend the tunnels at about every 12 fathoms. If this be done in the Mysore the first level will lay open a reserve block of ore worth 270,000l. If the shafts be sunk and 10 such levels be driven, it will then be a shallow mine—only 120 fathoms deep, and the value of the blocks of ore would be 2,700,000l. sterling. This is taking the facts pretty much as we find them, but should the rich lode be found to extend to a much greater length the value of the property will increase in proportion. In mentioning 120 fathoms in depth it must not be supposed that I believe it will run out at that depth; on the contrary, all things considered, I see no reason why it should not continue as deep as mechanical appliances can be found to cope with it.

I advise all those who have properties in the Mysore district containing extensive ancient workings to get at the bottom of them with as little delay as possible, and if they are not amply rewarded for their trouble I shall be very much mistaken. Of course, until the actual gold is found in the ancient workings many persons will be in doubt; but the Mysore speaks with no uncertain sound, and is, in my opinion, an earnest of good things in store for Indian gold mining generally. I have very little doubt that ore will be found at the Mysore very much richer than anything which has yet been reported. Indeed, from the general description of the formation I shall not be surprised to find that they meet with some shoots of almost pure gold. Without doubt the Mysore is a good sound mining investment, and should act as an incentive to all those who are engaged in resuscitative gold mining in India to prosecute their operations with renewed vigour.

THOMAS COLLINGWOOD KITTO.

Gunnelsbury, December 21.

### WEST AFRICAN GOLD MINES.

SIR,—It appears the Akankoo Company, like most others of the miserably mismanaged affairs on the Gold Coast is about coming to grief, and yet there are people sanguine enough in the credulity of the British public to bring out fresh ventures on this inhospitable coast for investors to lose their money in, and companies in the throes of despair endeavouring to raise more money to be expended without the slightest guarantee that any more economy or judgment will be exercised in the future than there has been in the past. The directors and shareholders of the Akankoo Company will now be able to chew the cud of bitter reflection, and call up memories of the past as to the initiation of this company, and their scurvy treatment of their first consulting engineer whose advice they ignored. It will be recollected that in 1881 I was engaged by the Akankoo Company to go to the West Coast of Africa to examine and report on their property, and to advise them on the general working of the mine. The directors before engaging my services made every enquiry, and fully satisfied themselves as to my ability and experience, and at their first general meeting the Chairman congratulated the shareholders on having secured the services of "such a competent man." I was accompanied on the expedition by one of the directors, Commander V. L. Cameron, who, according to the letter of instruction I received from the Chairman "was to render me valuable assistance and support," but in no way to interfere with my mode of work. Mr. Maurice Grant, who was then promoter and agent for the vendor, and a kind of chief dictator to directors, but now Chairman of the company, did not appear to have implicit confidence in the stability of the gallant commander, as on the eve of my departure the last words he said to me were "Keep Cameron straight." I thought this a strange injunction from Mr. Grant that, in addition to my rather onerous duties of taking charge of an expedition to the Gold Coast to prospect the Akankoo and other properties, that I should be specially enjoined to keep a director of the company and fellow voyager "straight." I found it an exceedingly difficult undertaking to keep a man "straight" who was often bent on crooked paths. Instead of receiving the cordial support of the director who accompanied me, I regret, and had to report that I experienced the reverse. Commander Cameron at the outset wanted to teach me how to do my work, but as his views of mining did not coincide with mine I had not only to refuse his instructions but gave him plainly to understand that after 25 years' experience of gold mining in Australia I had not come to the West Coast of Africa to be taught gold mining by one who had never seen a gold mine in his life! I regretted being compelled to resist the usurpation of authority by that gentleman, but my instructions were definite not to allow myself to be interfered with by any one. I have felt it necessary to dwell somewhat on this incident, because it is an important one in the history of gold mining on the West Coast of Africa, and is probably the forerunner of much of the misfortune that has happened on that coast since then in relation to gold mining. The Commander, who had no doubt great notions of his own importance, did not relish my rebuff, and evidently got what is known as a "down upon me," and was determined to have a go in for mining management on his own account, which he after succeeded in doing, as is no doubt well remembered by those who had to find the "planks and money" for his experiments. My general report on the property was favourable, and I stated that "the property was well worthy of legitimate development, and one which I thought, under judicious and careful management, could be made to pay a handsome profit on the capital invested in the mine." The directors accepted my report, on my return from Africa completed the purchase of the property, and instructed me to propose my scheme for the future development of the mine. This I did, but the prejudice of Commander Cameron had evidently biased the directors as to my method of opening a mine, and they as a body, in conjunction with Mr. Grant, held views contrary to mine. I suppose because I wanted to open the mine properly before putting up machinery. At one of the board meetings where my views were being discussed, and I could plainly see that I was expected to recommend the rushing out of a lot of machinery before it was wanted, the present Chairman made use of the observation "that gold mining was nothing; it was only digging a hole in the ground." He urged that I should put on a thousand men and put up a 100 head of stampers, because they had plenty of money; but I am afraid after four years of "business" they have not

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plenty of money. I told the directors, as a practical miner, I could not adopt their views, and that my business as a consulting mining engineer was to teach mining, and not be taught my duties. This appeared to sum up the height of my iniquities in the eyes of directors and those who evidently wanted to make use of my name by inducing me to advise the sending out of a lot of machinery before it was wanted, so as to cause a big rise in the shares, but finding I was not so pliable as they wished, they decided to get someone else who was not so particular; but as a salvo to their consciences they refused to pay me for the three months' services I had rendered them after my return. As the shareholders as a body have condoned the laches of the directors they have now only themselves to blame for the muddle things have been brought to. Jealousy of each other and the fight for the loaves and fishes of office have had a good deal to do in bringing the Akankoo to grief, as it has done many other similar affairs in mining as in other walks of life.

I have no hesitation in saying that had the directors and shareholders of the Akankoo followed my advice and allowed me to have opened and worked the mine according to my own views of practical gold mining that the company might have been made a success at a moderate cost, instead of a failure at an enormous expenditure of capital and waste of time, which can never be regained. Had the Akankoo Mine been properly opened out, the finances judiciously administered, and made only moderately successful, it would have been an example that other companies might have followed on that Coast with advantage to themselves and the general benefit to gold mining; but the inordinate vanity and assurance of a few amateurs who were desirous of experimenting at other people's expense has brought the Akankoo Company and many others to grief.

From what I saw and heard of the management of most of the mines or prospecting ventures when on the coast, I thought it advisable at the time to raise a note of warning as to future management, and in your issue of August 20th, 1881, appeared one of my papers on West Africa, in which I remarked, "If the gold fields of West Africa are to be profitably worked, it will be necessary that companies exercise economy in their expenditure, a judicious selection of experienced officers and miners to direct and superintend the native labourers, as also in the selection and erection of suitable machinery, and not to pay too high a premium for the privilege of prospecting a mine."

Shareholders in gold mining companies will find that instead of paying away large sums in directors' fees for mismanagement, that it will be more profitable to place the management of their mines in the hands of experienced and responsible men who understand their business.

THOMAS CORNISH,

Engineer, Akankoo, Gold Coast Prospecting Expedition, 1881.

### THE NEW ALBION GOLD MINE.

SIR,—I should like to ask why the reports of the above-named company also are not regularly published in the *Mining Journal*? The mine is situated close to Halifax, North America.  
December 16. AN OBSERVER.

### THE OSCAR GOLD MINE.

SIR,—By-the-bye, I should like to ask your Correspondent, "A.S.O.S." who wrote about this company in your issue of 20th December, 1884, whether he is now quite so confident on the subject?  
December 15. A BONA FIDE INVESTOR IN MINES.

### THE RUSSELL GOLD MINE.

SIR,—As North America is in almost daily communication with England by steamer, I should like to ask why regular reports from the above mine do not appear in the *Mining Journal*? I observe the property is in North Carolina; a State in which English investments have not up to the present been very fortunate—witness the Hoover Hill and Gold Hill companies. The Hoover Hill Company has had to write off nearly half its capital, and, after five years' existence, is only paying a dividend for the first time, while the Gold Hill shares are practically unsaleable.—December 19. AN OBSERVER.

### QUEENSLAND MINING—WARNING TO CROWN LEASEHOLD INVESTORS.

SIR,—A Herberton correspondent of yours takes exception to some remarks of mine respecting Queensland mines. I have, therefore, seen the gentleman, whom I have known for some years, and from whom I obtained the special information on which my letter was based, and he has sent me the enclosed communication as the result of his personal knowledge of the Herberton mining district, and of the practical working of the Queensland Mining Act. He is a scientific man, the holder of a professional degree, and with a long varied and practical knowledge of mining matters generally, and one in whose judgment, skill, experience, and integrity both myself and many leading Sydney men place the fullest reliance, he having already in several instances fully justified our confidence in his examination and reports by the results, and his remarks on the oppression and dangerous (to the leaseholders) nature of the labour clauses may prove of real value to intending investors in Crown leaseholds in Queensland for all minerals, except gold, as although even there, the conditions are much more onerous than in New South Wales. Still, the comparatively small number of men, necessarily concentrated on a small area, does not prove such a tax on and danger to the proprietor as the one man to every five is on a large leasehold, where only five or six men at most can be profitably employed for the first year or two, and when by a little collusion between them his property may be forfeited. Unfortunately for the best interests of Queensland, all too many of its politicians are needy men, who have to live by politics and plan, hence such as they pander in every possible way to the "working men," whose vote gives them pay and power and hence follows class legislation of the worst kind.—Sydney, November. R. D. A.

One of your Herberton correspondents, in a series of somewhat extravagant letters, written with the object of attracting British capital to what he considers a field in North Queensland containing unparalleled mineral wealth, of the investment of foreign capital, neglects to inform his readers the reason why the glory that a few days ago surrounded this mineral district of Herberton has departed, and probably never likely to return.

The fortunes that were made during the halcyon days of the alluvial tinworks of New England and the Queensland border was present in the minds of miners who, on account of the decline in the gold and mineral fields generally, panted for speculation in "fresh fields and pastures new" when the discovery of tin deposits at Herberton, an isolated spot in the far north of Queensland, was announced. The discovery attracted a class of men less rotated by a



desire to legitimately work and develop mines and produce ore than to secure an area of land, and through the medium of unscrupulous 'touts' or the Press continually kept the public mind influenced as to the extraordinary richness of their discoveries.

"Speculators with no knowledge of mines were attracted to the field, or were induced by the representations of unscrupulous self-termed 'experts,' typical 'practical men,' 'captains,' or duped investors to purchase claims represented as containing lodes of immense value and persistence. In this way company after company was started with large capital, the principal portion of which passed into hands of the vendors.

"While an infinitude of mines were being opened up, and money was being freely—nay, lavishly—spent in these operations, and in the erection of machinery, at an enormous cost, considering the isolation of the field and the absurdly high value in many instances put by unskilled men on their labour. And while the colonial papers contained articles upon new and larger discoveries, Herberton was founded, grew apace, and for a time—while capital was being spent, and investors yet in high hopes of the large returns promised—were an appearance of substantial prosperity. Labour, as a rule, was of an inferior description, and the price of it was so high that nothing short of Eldorado could stand the strain. The character of too many of the workmen—with certain exceptions—was of the class who exclude the superior intelligence and industry of fine thrifty races, because of the colour of their skin, yet who claim the sympathy and support of the 'intelligence' (!) of the colony, by the licentious character of their lives, their incorrigible inebriety, general disregard of the moral or temporal law, and their aptitude, at a later date, of falsifying the returns of polling districts by stuffing the ballot-boxes.

"Deeply sympathising with the working miners (being one of themselves), a late Queensland Minister, at a time when it was believed that large quantities of stream tin would be found, visited the locality. He was interviewed by his Hibernian brethren, and his quick perception and intimate (?) knowledge of mining enabled this sapient Minister to perceive the advantage that the colony would gain by creating a race of small mining proprietors, and setting them on tin claims, which, as he explained in a speech to his brethren, would descend to their children and grand children as a priceless heritage.

"On his return to Brisbane the Mineral Lands Act of 1882 was passed. Previous to this date metalliferous mines and the solum of the land could be purchased from Government on certain specific terms, and very large areas of land, containing the pick of all the then known mines, had been so acquired and made freehold. The Act referred to prevents the sale of metalliferous mines, instead of which the Government would lease the same not on a royalty which could press heavily upon the working man, but on a paltry rental of 10s. per acre per annum, without reference to quality or value of position, and the following are some of the provisions of this Act:—

a.—Limitation of area to 160 acres.  
b.—Yearly rent of 10s. per acre, payable in advance; term not to exceed 21 years, renewable for another term, on such conditions as the Minister deems equitable.

"Reservations:—  
1.—Gold to be reserved to the Crown.  
2.—To pay rent at prescribed times.  
3.—Forfeiture of lease on non-payment of rent for 30 days after it accrues.

4.—Such other conditions as may be prescribed.  
5.—Lessee to work the mine continuously and *bona fide*, in accordance with the regulations (whether the labour could be usefully employed or not).

6.—Forfeiture of the lease on failure to perform.  
"When this Act was passed some demur was made in Parliament as to what the regulations might imply. The Minister generally indicated what these would be, and as the House believed him to be a 'practical man,' and few of the members had any knowledge of mining pursuits, and as it was believed to be a popular Act among the working classes it was permitted to become law.

"The regulations, afterwards issued, were as follows:—  
a.—To employ continuously one man to every 5 acre held. b.—If for three days this condition was not duly fulfilled the lease was liable to be jumped—forced in favour of the first that legally claimed it, and no compensation even be claimed by the original lessee.

"A lessee having a desire to scientifically work a mine may employ the required number of men for years sinking shafts and in dead-works, locating expensive raising or pumping machinery, and after all this expenditure is liable to have his whole property forfeited if from any pre-arranged cause his workmen refuse to work, or do not work for the time specified. A lessee is not granted a lease for a dam or a machine site, he is a tenant at will, and his property at the discretion, and in the power of an unscrupulous minister (ministers of this are not unknown). These conditions are not remitted or ameliorated on account of scarcity of labour or from stagnant markets or low or unprofitable prices of minerals, or in isolated localities from droughts, or the impossibility of procuring transport. They are enactments specially favourable, unfortunately, to facilitate, and to practically encourage 'jumping' honest men's property by designing and dishonest men, and to excite the cupidity and the lowest attributes inherent in humanity in mining districts.

"Unfortunately for the day dream of the promoter of this Act the tin of Herberton was not found in any quantity as stream tin, but over a wide area of mountainous, and all but impassable country, it was found where certain rocks predominated in patches. These patches were considered to prove the existence of lodes, and they are still believed to be such. On being worked these patches of ore, in the majority of cases, suddenly cut out. The fact is that of the hundreds of so-called lodes discovered over some hundreds of square miles, the writer is not aware, and he has never seen nor heard of one single instance of a true tin lode having been found. Some very large pockets, bunches, or pipes of ore have been found, and one or two are still being worked (because of their size and quality) to a profit, but countless claims in the Herberton and surrounding districts, formed in the early days by over-sanguine representation into companies with enormous capitals, have all been abandoned, and the capital lost or squandered in objectless works under a mistaken idea of the character of the deposits. The high price and inferior quality of labour—3s. 10s. to 4s. for 44 hours' work, and the impossibility of performing the exacting and depleting labour conditions may be considered as the main reason of the unsatisfactory condition of affairs. To work such deposits capital is necessary, but capital is unlikely to be attracted to leasehold properties in a colony where restrictions are placed on the employment of intelligent foreign labour, and where it is at the mercy of an ignorant race of illiterate idlers, or of a minister who may be possessed with peculiar notions of justice, and of right and wrong. After capitalists have been driven from a field where the metalliferous deposits are of a most capricious and uncertain character, and where under present conditions the majority are unworkable to profit, it is beginning to dawn upon the lethargic minds of the few left to brood over the profusely scattered emblems and monuments of abandoned mines and deserted villages, and ruined Shebeens and low public houses, that the much coveted Mineral Lands Act, with provisions for the 'better jumping of honest men's property,' has proved—because of conditions unintelligible to the promoters—most detrimental to labour and to the working man.

"Could the past be recalled, and an Act passed perfectly equitable its conditions, with a royalty on minerals produced, and no labour conditions of an impracticable and iniquitous description, Herberton might have been for a time a busy theatre of honest labour, not an existing ideal of the lines—

"None shall dwell in that village,  
For they say oppression reft it from the honest man,  
And that a curse hangs o'er it."

"It is all in vain for your Herberton correspondents to endeavour to talk generalities and platitudes on subjects they appear little to understand, and which if acted upon by investors at home could only add to the already long list of people who in distant possessions have invested 'in haste, to repent at leisure.' The British, or any other

public, are unlikely to invest in mines in a colony whose statute book is disgraced by the Mineral Lands Act of 1882.

"Leasehold investors are unfairly handicapped by freehold properties acquired under the old Acts, in the working of which no labour or other conditions apply. In this class of property alone is there any value or security to an investor, and in freehold alone is he emancipated from the withering and iniquitous labour provisions applicable to leaseholds.

"That Queensland may be truly prosperous, capitalists must be encouraged by intelligent and enlightened statutes, and left perfectly free and unfettered to employ whatsoever class of labour that best suits their purpose. A recourse to restrictive legislation in respect to labour is founded in essential and profound ignorance of the first principles of political economy. It is suicidal to the best interests of the colony; it is a snare and a delusion. The greater the vigour of its application the more certain and bitter will be the disenchantment.

"By advocating the passing of enactments towards such an end your Queensland correspondents may hope to effect good service to the law of their adoption. Certainly not by adopting means to invite investors to a field where, under existing conditions, there is no hope of his or their anticipations being realised.

#### SILVER CHORD MINING AND SMELTING COMPANY (LIMITED).

SIR,—This company was floated about the middle of 1883 with a nominal capital of 100,000. Excepting the statutory meeting the shareholders have not been called together, neither has any statement of accounts been issued; but, worse than this, even at the offices of the company no information whatever is obtainable. Surely after partially waiting for two and a half years some idea of the position and progress of the mine—if it exists—might be vouchsafed the shareholders who supplied the money. Can you or any of your readers help me?—London, December 19. SHAREHOLDER.

#### GOLD MINING SHARES AS AN INVESTMENT.

SIR,—For many years I have given much attention to mining shares, and at present am a *bona fide* shareholder in various mines in all quarters of the globe. Pardon me therefore for addressing you, my object being to communicate to your readers some conclusions at which, after a lengthened and sometimes costly experience I have arrived. For many people gold mining ventures have peculiar attractions, while by others they are looked on with very great disfavour, the latter class being largely composed of those who at one time or other, have rashly leaped at some glittering bait, and quickly found themselves landed high and dry by some unprincipled, but expert angler. In no other class of investment can the hook be so artfully baited or the rod so deftly handled. The very greatest caution especially in regard to new ventures, and shares not quoted in the Stock Exchange Official List is therefore absolutely necessary. Shares recommended in puffing circulars should, as a rule be carefully avoided, as the writers of these have all some selfish end in view. Disinterested information can usually readily be got through a respectable stockbroker. It is also unwise to risk more in any mining venture than one can well afford to lose or to purchase at all unless the buyer can afford to wait. For these reasons, as also, because I frequently find that when prices have had a smart rise markets are manipulated by speculative operators, I prefer low priced shares to those standing at a high level. That several of the Indian mines in the Mysore district will ultimately prove highly remunerative I am quite convinced, yet as all mining ventures require time to develop I am afraid that some sanguine purchasers may have their patience severely tried, and would counsel them to make up their minds for this. Shares of some of the Wynaad companies—such as Wynaad Perseverance and Wentworth—which are at low prices and have scarcely moved, seems to me a fair enough purchase. It is also an advantage to spread one's investments and as recent gold mining accounts from New Zealand are very encouraging, the shares of the Kapanga Mine appear to afford facility for this. This mine is situated in the district from which the good accounts have come; the shares are at a low price, and the Minister of Mines for New Zealand has indicated that his Government is likely to give the company substantial assistance in further developing the mine.

The shares of some of the low priced Venezuelan Gold Mines, which are just beginning to attract attention, are also inviting. There can be no question that the New Chile Gold Company's property is a very valuable one from which for years continuous returns have been made averaging recently about 2500 ozs. a month; and if, as is confidently anticipated, these returns are shortly doubled there will most certainly be a very smart rise in the price of the shares. The shares of the New Potosi Company also look a fair risk, though in this case a little longer time may be required for development. Some of the African mining shares are also at low prices, but from what I can learn, and my sources of information are good, I am doubtful if they are cheap. It appears to me that the coming year will be an active one in gold mining shares, and that a deal of money will be made and lost in them, and my apology for troubling you with so long a letter is the hope that it may be the means of preventing a few of the numerous flock of "lamb" from being fleeced.

A MINING INVESTOR.

#### GREAT HOLWAY LEAD COMPANY.

SIR,—The information given in the "Stock Exchange Year Book" is stated to be official with regard to the above. Now, there are 7 per cent. debentures in Great Holway to the amount of 12,000, interest being payable June 30th and December 31st. The interest is stated to be met. I beg to say debenture interest is not met. I hold a debenture bond, and have not been paid any interest on it since December, 1883. The debentures have to be paid off on 31st December, 1885, with all interest due.

A MORTGAGEE IN GREAT HOLWAY.

EMPLOYMENT IN THE ENGINEERING TRADES.—The reports of the principal Trades' Union Societies connected with the engineering trades are of a very discouraging character. The returns sent in to the Amalgamated Society of Engineers show trade to be generally bad, and the number of members in receipt of out of work support, which has been steadily on the increase during the whole of the past year, is now exceptionally large, upwards of 8 per cent. of the members in the Manchester and Salford district—and this may be taken as an average throughout the country—being on the books at the present time for out of work donations. In spite of this depressing state of affairs there seems to be a vague feeling of hopefulness that the New Year is going to bring forward some improvement, but no substantial basis can be assigned upon which these expectations of better trade are founded. This feeling is set forth with some appearance of plausibility in the last report of the Steam Engine Makers' Society, which is in a more favourable position as regards its unemployed members than other Trades Union organisations connected with the engineering branches of industry. In the Steam Engine Makers' Society the number of out of work members actually in receipt of donation benefit does not exceed 4½ per cent., which the report states is a slight reduction upon the previous returns, but not to such an extent as to warrant the conclusion that there was any definite improvement in the state of trade. The report adds that it was, however, some consolation in saying that there seemed a slight sign that times were about to improve, and if these would continue they had hopes that before the spring of the coming year was far advanced they would see employment more plentiful than it recently had been. These encouraging signs came from the iron manufacturing districts, as the market reports of this industry were more encouraging than they had been, whilst orders for shipping were more plentiful, and American trade reports were of a more encouraging character than they had been at any time since the depression set in. All these signs, says the report, had in times past led to good trade, and upon his basis is built up the hope that in the present instance the same results will follow to the mutual benefit of all concerned in the country's prosperity.

#### FOREIGN MINING AND METALLURGY.

The German iron markets have been weak, and prices have exhibited a downward tendency, although quotations have not been officially reduced. Spiegel pig may be excepted from the general dullness. This exception is due to the fact that the production has been reduced, while the works are not very numerous; the consequence of this is that the prices agreed to for the first quarter of 1886 show a rather decided advance. The exports of machinery from Germany have been falling off during the last two years. In the 10 months ending Oct. 31 locomotives were exported to the extent of 5747 tons, as compared with 8497 tons in the corresponding period of 1884, and 10,889 tons in the corresponding period of 1883. Other machinery was exported in the first 10 months of this year to the extent of 53,033 tons, as compared with 60,814 tons in the corresponding period of 1884, and 63,946 tons in the corresponding period of 1883. The metallurgical production of Germany last year was as follows:—Pig, 3,600,000 tons; castings, 698,000 tons; iron 1,592,000 tons; and rolled steel, 1,138,000 tons. The corresponding figures for 1883 stood as follows:—Pig, 3,470,000 tons; castings, 645,000 tons; iron, 1,571,000 tons; and rolled steel, 1,060,000 tons. While the production of 1884 was sensibly larger than that of 1883, the prices of last year were appreciably lower. The works of the Cael Company have been transferred to the Denain Company. The transfer has been suggested by economical considerations.

As regards the Belgian Iron Trade, it may be well to recall the fact that we have now arrived at the period of the year when industrials do not usually undertake large transactions, but when they occupy themselves with stock-taking. The general condition of the Belgian iron trade cannot be said to have improved; at the same time, although business is not active, sales have not been so much pressed as hitherto, as holders appear to be convinced that the fall in prices has now been carried to its utmost possible limits. The last lots of old rails offered for sale by the administration of the Belgian State Railways have been tendered for at from 17. 19s. 5d. to 22. 5s. per ton. These prices are certainly much lower than those noted at the last previous adjudication of old rails, but at the same time it will no doubt be found an advantage to have the markets relieved of accumulations of old *matériel* of this description. The John Cockerill Company submitted the lowest tender for three lots of steel rails required by the company formed for working the Netherlands State Railways. The John Cockerill Company has also, it may be added, applied to the Russian Government for authority to establish a cannon foundry at Nicolaïeff. Baron Gadoine, the general manager of the John Cockerill Company, has visited Nicolaïeff with the view of selecting a site for the proposed works. A Russian Metallurgical Congress has just been held; it was attended by 102 gentlemen, of whom 66 were foremasters.

The spell of cold weather which had induced a certain activity in the household coal trade in Belgium has not been of long duration. At the same time, the Belgian coal markets have not felt the influence of the change to any great extent. Business has been conducted with a certain regularity, prices have not varied, coke has remained dull, and sales have been effected with difficulty. The Liège Union of Collieries, Mines, and Ironworks has undertaken an inquiry into the condition of the Meuse as regards its navigability. The Lonette Colliery Company is about to deepen its extraction and ventilating pits; the pits are to be carried to an approximate depth of 1200 ft. According to surveys which have been made by the managers of the colliery, and according to opinions which have been expressed by various engineers, the Beaujard and Grande Delsemme beds will be met with at the level just mentioned—a depth of 1200 ft. The beds are expected to extend over the whole area of the concession, and in that case they must be regarded as forming a carboniferous deposit of no common importance. Coal has remained generally stationary upon the German markets. The extraction of the Government mines in the Sarrebruck district amounted, in November, to 498,350 tons, or 6794 tons less than in November, 1884. The deliveries made from the Sarrebruck district, in November, were 512,750 tons.

HONEST LEAD MINING.—The lead mining villages of Cardiganshire are almost depopulated. Scarcely any of the mines are working except in that limited way necessary to comply with the leases under which the mines are held. Landowners, with that perversity which characterises all their conduct, have refused to make concessions in royalties, which range as high as a fifteenth or a sixteenth of the produce. The causes which have brought the lead mines in Cardiganshire to a standstill are numerous, but the chief of them is the heavy decline in the price of lead. This cause operated sooner than it would have operated owing to the other causes which in the long run were sufficient to close all but the most profitable mines. The royalties as we have already pointed out, are unreasonably heavy. Instead of being a fifteenth or a sixteenth, they ought to be a fortieth or fiftieth of the produce, and instead of being fixed as they are now they ought to vary with the varying price of the mineral. In addition to the extortion of land owners, mines have had to contend with the grossest dishonesty of mine jobbers and speculators, who have defrauded the public and wasted money in London that shareholders imagined was being spent in opening up new ground. It is doubtful whether during the past 50 years ten per cent. of the money raised, ostensibly to work Cardiganshire lead mines, has been spent in actual mining operations. One notorious swindle succeeded another until the confidence of the public was destroyed, and really valuable properties were neglected. Apart, however, from swindling schemes, there were great and unnecessary office costs saddled upon mines which were otherwise fairly worked. Economy has never been a prominent feature in the management of lead mines in Cardiganshire. A further source of weakness in the past was excessive expenditure on surface works when it was not known whether the underground trials would justify it. The companies for obvious reasons were always far more anxious to make a good show of machinery on the surface than to good work underground. There are numerous cases in which the lead crushed never paid for the machinery the work was done with. Coal mines and slate quarries are honestly worked by investors who sink their money in the hope of making profit. The question we wish to ask is, whether it is not possible to take the Cardiganshire lead mines altogether out of the hands of mine jobbers and work them as other mine properties are worked? The price of lead is improving, the mechanical means of sinking shafts and driving levels are more effective and cheaper than ever they were; wages are low, and now that there is a disposition to grant pieces of land at agricultural rents men will prefer to work at home than to seek employment in coal mines and ironworks of the south. What is wanted is that local capitalists should form a syndicate and take in hand a few more of the more promising mines, work them fairly, and see whether it is not possible to make them pay a considerable margin over working expenses. There are plenty of men in the district competent to provide the necessary capital if confidence in the good faith of the schemes could be established. That there will be a further development of speculation in Cardiganshire lead mines we have no doubt whatever, but it would be far more satisfactory in many ways if the mines could be worked on ordinary business principles by men who desired to make profit out of the minerals raised rather than out of the sale of the mines themselves. Now is the time, when mines are at a low ebb, that a trial could be most cheaply made. When once the speculative fever breaks out, as break out it most assuredly will, nothing of the kind we suggest will be possible.—Cambrian News.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. Wm. ASHOTT, of Tokenhouse-yard, are given in tabular form in the Stock and Share List page of the Journal.



## A VICTORIAN GOLD FIELD—80 MILES OF GOLD QUARTZ REEFS.

## COHEN'S LINE OF REEF.

This reef has been described and illustrated by means of longitudinal and cross-sectional diagrams in the "Geological Progress Report, No. 5." It consists, as a whole, of a shoot formation of dyke stone, with accompanying and intersecting lodes and veins of quartz, the entire formation having a north-north-westerly strike, and a south-south-westerly underlay, coincident with the containing strata, and a general pitch or dip to the north-north-west at an angle of about 32 degrees. The main shoot has been followed down on its dip from its surface outcrop at the southern end to a vertical depth from the surface of 800 ft., where it is now being worked by the Long Tunnel and Long Tunnel Extended Companies. In general persistency, and in the maintenance of a regular auriferous character, this lode is perhaps unequalled in Australia, and there are no apparent grounds for doubt as to its continuance to more than double the depth at which it is now being worked. Besides the main lode other rich shoots and splices have been proved to exist in connection with it. In the North Long Tunnel and other mines northward on the line strenuous efforts are being made to effect further developments, and there is every reason for hoping that other "shoots" will be discovered. Indications of the back of the lode are visible as far north as the Fear-not-Creek, where a lode formation is visible on the bank of the creek near the traverse line.

## LONGFELLOW'S SUN AND FEAR-NOT LINES.

Half-a-mile west of, and approximately parallel with, Cohen's line, is the Longfellow's line of dykes and quartz veins. Rich yields were once obtained here, but the workings are at present abandoned, and it was impossible for Mr. Murray to gain there a general idea of the principal features, of which illustrations, from drawings made by Mr. A. Walker, mining surveyor, were published in the "Geological Progress Report," No. 5. The Longfellow's, the Rising Sun, the Sun Extended, and the Fear-not Mines appear to be all approximately in the same course. There is evidently a succession of dykes and accompanying quartz veins, all following a general N.N.W. trend with the strata, but not forming a distinct continuous line of reef, the individual dyke shoots crossing the strata obliquely. As the dykes are large, decomposed, and very much intersected by large and small auriferous veins, highly favourable results are likely to be obtained by working them on a large scale and crushing by the aid of water power, an undertaking which the Rising Sun Company is now carrying into execution. Between the Longfellow's and Cohen's lines are the Comet reef, and another farther north in the same line with it, both of which have been proved auriferous, but at present are unworked.

## THE TUBAL CAIN LINE.

Two miles eastward of Cohen's line is the Tubal Cain reef, having a north-westerly strike and a south-westerly underlay. Good yields were once obtained from the upper workings, and a tunnel recently driven at a lower level has cut the reef, which shows great regularity, and contains gold-bearing stone likely to repay the company now working. Southerly from the Tubal Cain reef, and nearly in a line with it, is a large decomposed dyke, below which the Eureka Gully was exceedingly rich in alluvial gold, indicating that the dyke is probably traversed by auriferous quartz veins at some portion of its course.

## THE GREAT NORTHERN REEF.

The outcrop of the Great Northern reef is 2½ miles north-north-west from Walhalla, on the range dividing Stringers' creek from the Aberfeldy river. Rich gold-bearing stringers were found at the outcrop, but the stone did not maintain a payable character downwards. The Great Northern Company are tunnelling and prospecting the veins discovered, which show a little gold.

## HANNA'S REEF.

A mile further north than the Great Northern Mine, and 10 chains east from the 40th station on the traverse line, is a reef shown by Mr. Hanna, of Walhalla, who discovered a little gold in it. This reef was prospected before, and was known as the Golden Rock. It consists of veins and bunches of quartz, accompanying a sandstone band with a slate footwall underlying westerly.

## THE SHAMROCK, WEALTH OF NATIONS, PERSEVERANCE, AND SCOTIA REEFS.

These appear to be different "makes" on the same line, which crosses the divide between the Deep Creek and the Aberfeldy about 6 miles northerly from Walhalla. The Shamrock reef is to the south of Donnelly's Creek track, along the divide, and, though it once yielded richly, is now abandoned. The Wealth of Nations reef crosses the range, and passes into the Aberfeldy drainage area. Rich yields were obtained near the surface on top of the range; but the good stone was not traced far downwards. A tunnel was driven in from the west 250 ft. down the hill, cut the reef at 700 ft., and drives were opened for a considerable distance either way along it. Some gold was found in the stone to the south, but no crushings were effected. The old workings on the Perseverance show a large shoot of mixed solid and rubby stone, thinning out at the lower edge, pitching to the north and underlying westerly. Yields that would have been payable with proper arrangements are reported to have been obtained, but the method of working adopted was too expensive to admit of remunerative returns, and the mine was abandoned. On the next spur, to the north of the Perseverance reef, and in a line with the latter, is the Scotia reef, also abandoned at present, although from trial crushings of the stone payable prospects are stated to have been obtained.

## THE DREAM AND STEINBOCK'S REEFS.

For a distance of over 4 miles northerly from the vicinity of the Scotia reef, no indications of payable reefs having been found are visible until arriving at the Dream reef, about 10 miles in a direct line north-north-westerly from Walhalla. The reef has been worked on both sides of the Dream creek, which crosses it. The reef has a bearing north-west by north, and south-east by south, and appears to be like the containing strata, nearly vertical. Payable yields were once obtained here, but they fell off, and the workings were abandoned. On the opposite or northern slope of a high range, north of the Dream Creek, and in a line with the Dream reef, is a reef discovered by Mr. Steinbock, who drove a tunnel into it some distance below the outcrop. This reef has a north-west and south-east bearing, and a north-east underlay, its thickness varying from a few inches to 2 ft. No crushing was ever taken out, but enough gold was seen in the stone to justify the belief that it would yield ½ oz. to the ton. To the westward of the Dream and Steinbock's line of reef, on the banks of the Aberfeldy river, are exposures of dyke stone, consisting of a sort of a porphyrite, differing somewhat in appearance from the Walhalla dykes, and not accompanied or intersected, as far as could be seen, by large quartz veins. It is noticeable that the river workings were tolerably productive in the vicinity of where the dyke intersects the bedrock.

## THE SOUTH TOOMBON AND JORGENSEN'S REEFS.

Southward of Donnelly's creek, and is about a mile north-eastward from its junction with the Aberfeldy river, is the South Toombon reef, which has been opened for only a very short length, and shows a bearing north-north-west and south-south-east with an underlay north-north-east. This reef consists principally of closely intersected quartz veins. From a trial

crushing a yield of 8 dwts. per ton is reported to have been obtained on the range north of Donnelly's Creek, and in the same general line as the South Toombon is Jorgensen's reef, last worked by the Stratford and Avon Company; the reef has a general course of north-north-west and south-south-east, and an underlay east-north-east. Good gold was once obtained, but the continuation was lost.

## THE TOOMBON REEF.

The Toombon Mine is 14½ miles in a direct line north-north-westerly from Walhalla. The reef yielded richly when worked from a tunnel some years ago by the Aberfeldy Company, but as the shoots of gold-bearing stone passed under foot, or were temporarily lost, changes of ownership took place, and work was for some time interrupted. Finally, the present company was organised, and erected the necessary machinery to enable the mine to be worked by means of a shaft, and after some disappointment eventually succeeded in finding at the 90 and 180 ft. levels the main shoot of gold-bearing stone that has lately yielded, and is now yielding such excellent returns. Taken as a whole, the Toombon reef has a north-north-west and south-south-east strike, and east-north-east underlay. It does not altogether coincide with the strata, which strike nearly north-west, and its underlay is in places obliquely across, though in the same direction as that of the strata. The pitch or dip of the gold shoot now being worked is to the south-south-east, and there is every indication of the reef maintaining its size, regularity, and gold-bearing character as followed downwards. Other shoots may also be found by means of driving either way along the track of the reef beyond where the present shoot thins out on the strike. Dyke stone occurs in parts of the workings, and it is the similarity of this dyke stone to that which accompanies Cohen's reef, together with the fact of the two reefs being apparently in a line with another, that has led to the supposition that the Cohen's and the Toombon reefs are portions of one and the same lode. The presence of needle pyrites in the dyke stone and its value as an indication of the proximity of gold in the workings of both reefs has further strengthened this idea. There is, however, so much positive evidence against the above theory as to render it all but untenable. There is a well-marked anticlinal gold of the Silurian strata, the axis of which passes through the entire length of the strip surveyed, and is traceable from point to point from Little Joe Hill, south of Walhalla, to the Aberfeldy river, westward from Toombon. Cohen's reef is on the west side of the fold, in strata having a western underlay. The Toombon reef is on the east side, in rocks underlying easterly. Series of horizontal layers, subsequently folded in the form of a long arch, the crown of which has been moved by denudation, leaving the side as represented by the two groups referred to. If, therefore, certain beds in a series of layers contained more gold than others, it is easy to understand that, after those beds had been folded, the lodes formed in them on both sides of the arch would be auriferous, and there could be two or more sets of more or less parallel reefs, totally distinct from each other as reefs, but nevertheless owing their auriferous qualities to the fact of their respectively occupying disunited portions of the same rock layers, which once contained in a disseminated form sufficient gold to render the lodes payable when segregated into them. Mr. Murray says he has been led to the conclusion that the Toombon and Cohen Reefs are altogether distinct from one another, and that no definite connection is likely to be found between them. Thin tracks may be found to disappear entirely as followed northward or southward, but their downward continuation will doubtless extend as far as it is possible for human skill to penetrate. As regards belts of strata, however, it appears that the Tubal Cain, the Shamrock, Wealth of Nations, Perseverance, and Scotia, the South Toombon, Jorgensen's, and the Toombon reefs are all situated in very nearly the same group of rock band lying to the east of the main traverse line, while adjacent to the southern, and diverging westward from the northern portion of the traverse, lies the group containing Cohen's reef, the Great Northern, Hanna's, the Dream, and Steinbock's reef. It is very much to be wondered at that such reefs as the Shamrock, the Perseverance, and others with a similar history, should remain so long neglected, when, by means of a little carefully conducted exploration, the continuation of the gold-bearing shoots would in all probability be discovered.

## GOLD MINING ON THE GOLD COAST, WEST

## AFRICA.

BY HENRY LOUIS, A.R.S.M., F.I.C., ETC.

[Continued from page 1437.]

The next point to be considered is the cost of milling the quartz and extracting the gold from it. This will, of course, vary considerably with the quality of the milling machinery employed; in some of the less accessible situations, remote from the coast, light mills with heads weighing only 300 lbs. have to be employed, whereas other mines more favourably located have 700 lbs. stamps. As the former can only mill about 1 ton in 24 hours, whilst the latter can crush rather more than 2 tons per head, whilst the amount of labour necessary does not vary very greatly in the two cases, it is evident that the larger mills have a decided advantage in this respect. Moreover, the efficiency of the heavy stamps is greater than that of the light ones; that is to say, that the former will crush more quartz per horse power, and thus utilise the steam power driving the stamp-mill to better advantage, the result being a considerable decrease in the consumption of fuel. It must be noted that all the Gold Coast mills are worked by steam power; the surface of the country is so nearly level that no large falls of water capable of being utilised as motive forces exist there, and the heavy rainy season throws very great, probably insuperable, difficulties in the way of employing the force of the currents of any of the numerous streams that intersect the country. The cost of milling a ton of quartz, including native labour, stores, chemicals, &c., and excluding only European supervision, varies from 4s. to 7s. per ton. Even the lower figure may appear high to those accustomed to the big mills of the Western United States, where the price is sometimes as low as 2s., but it must be remembered that in the first place there are no large mills on the Gold Coast, neither are they so efficient as the best American ones, nor, lastly, are they in as favourable a position as regards fuel. On the Gold Coast wood is the universal fuel used, much of it being of really excellent quality. Its consumption may be taken at 1-6 cord per ton of quartz crushed in the best mills on the Coast. Although all the mining properties of the Gold Coast abound in timber, this nevertheless forms a very expensive item in the cost of milling, as it has not only to be felled and split by negro labour, but, owing to the absence of all draught animals already referred to, it has to be transported on men's backs from the forest to the mill site, a distance which is constantly increasing as the wood close to the mine is being consumed and the men have to advance further into the bush in search of the trees most suitable for fuel. Moreover, as it is impossible to have a European superintendent with each gang of native woodcutters, these take good care not to do more than a minimum of work, unless, indeed, they be compelled to work on contract instead of being paid by the day, as is usually the case. A considerable saving in the cost of the transport of the wood can also be effected by

laying light portable railroads (on the Décauville or some similar system) through the bush to the mill site. At the best, however, the wood cannot well be delivered at the mill for less than 6s. per cord, and the general cost varies from 7s. to 10s. per cord.

It results from all the above that the cost of mining and milling 1 ton of quartz on the Gold Coast, including all native labour, stores, and supplies, may be averaged at about 20s. per ton under favourable conditions. To this the cost of European superintendence must now be added, and this will, as already stated, vary with the scale upon which the operations of the mine are conducted. In illustration of this, let the cases be compared of two mines situated under similar conditions, except that the one is working 10 heads and the other 100 heads of stamps. The former would thus mill about 400 tons of quartz per month, and the monthly cost of European superintendence, all told, would have to be about 270l., or (say) 13s. to 14s. per ton of quartz milled. The larger mill would crush about 4000 tons per month, and would require for the efficient superintendence of the entire operations a staff of Europeans costing about 600l. per month, or (say) about 3s. per ton of quartz milled. The wide difference between the figures in these two extreme instances serves well to illustrate the great economy that results from working on a large scale, and also points to one of the reasons of the non-success that has hitherto attended the Gold Coast mines; this being practically a new gold field, having only been regularly mined within the last five years, none of the mines have yet been extended to anything at all approaching the size referred to in the above hypothetical case. It is only after a mine has been in operation for many years that it can possibly be sufficiently opened out to enable it to yield a large output of quartz; if then the economy of its working depends, as it is here shown to depend in great measure, upon the extent of ground available for stoping, it is evident that the shareholders cannot hope to receive large dividends until the mine is well opened, however favourable the other conditions of the property may be. In other words, whatever may be the ultimate result of the Gold Coast mines, no immediate profits can be expected from them, and it is only by steady perseverance, and by sinking in them sufficient capital to open up a very large body of ore that their real value can be at all developed.

It, moreover, results from what has been said above, and from the figures given, that no reef containing as a minimum an average of less than ½ oz. of gold to the ton is worth working on the Gold Coast, and even this amount scarcely allows a sufficient margin for contingent expenses at the beginning. It is also evident that large companies stand the best chances of success, and that two or three companies, which, working individually, have not proved profitable, might perhaps work to advantage if united under one management, and with their milling machinery concentrated, as far as possible, in one place.

In a country possessing so many disadvantages, from a miner's point of view, as the Gold Coast, the ordinary risks of mining enterprise are many times multiplied, and investors, therefore, naturally look for brilliant returns in the case of a successful mine to compensate for the many possibilities of failure. Unfortunately, no such success has hitherto been chronicled, and the record of the Gold Coast cannot be said to be by any means encouraging to English investors, whilst on the other hand it appears certain that a great deal of money is yet required properly to explore and to develop the resources of this gold field, which is at present in the condition described by an American writer as "too poor to pay, too rich to quit." To the list of the difficulties already enumerated in these articles, one more must be added—the indifference shown by the Government of the Gold Coast colony towards mining enterprise generally; the colonial authorities seem to think that their governmental functions should be limited to collecting Custom-house duties on rum and gin, and that fostering English enterprise is no concern of theirs; there are absolutely no roads in the colony worthy of the name, and not only is communication in the interior thus rendered most precarious, but proper attention is not even paid to the maintenance of communication with the Mother Country; there is no cable to the Gold Coast, and the postal service is entirely at the mercy of a couple of lines of steamers, the only ones that run to the Coast, neither of which receive any subsidy from the Government for carrying the mails. It is true that the Government have made a show of encouraging mining by remitting in most cases the duties which they compelled the various companies to pay on the mining machinery which they imported to work their properties, but in many cases this remission was only granted at the expiration of a couple of years after the duties had been paid, and the companies were often urgently in need of the money thus unfairly withheld from them. Another serious obstacle to the success of Gold Coast mining is the difficulty of transport, occasioned by the want of beasts of burden; it is currently stated that horses, mules, &c., cannot live on the Coast, but the experiment of keeping them (although it is one which ought surely not to be considered as beyond the province of an enlightened Government) has never yet been fairly tried on a large scale. There seems no sufficient reason why mules should not do fairly well on the Gold Coast, and their employment, if it prove practicable, would tend greatly to lessen the excessive cost of mining in that locality.

To sum up, then, finally, the deductions that these articles are intended to substantiate, we must in the first place admit that gold mining in West Africa has hitherto proved a failure. This failure is due to the excessive prices paid for mining concessions, thus not leaving enough capital for the proper development of the mines; to the unskilful way in which mines have been opened and worked; to the small amount of quartz obtained in some mines, and its poverty in others. Nevertheless, after allowing fully for all the disadvantages incident to the country, there appears no reason why a reef sufficiently extensive when properly opened up to keep a large mill supplied with quartz, and which yielded a minimum average of ½ oz. of gold to the ton should not yield a fair profit if worked economically and scientifically. A reef yielding less than this amount is probably not worth working, but there are several Gold Coast properties that have yielded 1 oz. of gold and more to the ton, and in spite of the discouraging results hitherto obtained, we may be permitted to hope that patient and persevering work in some of the better of the Gold Coast mining concessions may meet with the reward that it deserves, and that it may not be very long before a successful mining enterprise may serve to rehabilitate the reputation of this much abused district.

On Saturday at noon, notices were posted in the shipyards of the Hartlepool, Stockton, and Middlesbrough setting forth that, in consequence of the continued depression in trade, there would be a reduction, to take effect on and after January 20, 1886, of 10 per cent. on time work, and 12½ per cent. in piece-work in all classes of labour employed in the various yards. This decision will affect over 1200 men in the Hartlepool alone.

HOLLOWAY'S PILLS AND OINTMENT exert a rapidly favourable effect in all those diseases which are induced by exposure to damp or by great changes in temperature. They will therefore be found eminently serviceable to those who work in iron foundries, copper mines, and collieries. These well known remedies present manifest advantages in respect of use and effectiveness, being entirely compounded of vegetable drugs selected with the greatest care and regardless of price. When used in accordance with the ample printed directions which accompany them, they act surely but mildly, and do not interfere with the daily work. There are but few diseases which are not capable of cure—or, at all events, of great relief—if Holloway's remedies are perseveringly used.



## Meetings of Public Companies.

### BULTFONTEIN HOMESTEAD COMPANY (LIMITED).

The sixth ordinary general meeting of shareholders was held at the offices of the company, 19, Finsbury Circus, on Monday, Mr. CHARLES J. POSNO in the chair.

Mr. GEORGE BROWN (the secretary) having read the notice calling the meeting, the report was taken as read.

The CHAIRMAN said that he was called upon to apologise for the unavoidable absence of his colleagues—Mr. Ochs, Mr. H. B. Webb, and Mr. H. Mosenthal. The report showed a state of affairs somewhat ameliorated, and he thought that the reduced expenses of the year would tend to show that they were slowly but surely getting better off. He could not at the same time speak with great confidence as to the future, except that they hoped that an improved state of things for all the diamond mining companies at the Cape might be brought about. They were aware that the companies were competing against each other in the labour market, as well, of course, for the sale of the diamonds that they produced. The result had been to teach them by experience, that with a very few exceptions they all had to present their shareholders with unsatisfactory accounts. A project had, however, been started for the amalgamation of the four mines under one administration, but it was not sufficiently advanced to lay before them yet, or to say what particular interest or amount was to be offered to this company for the transfer of their property. They hoped that in the course of next year such a proposal would be made, and when it was the board would be very pleased to submit it to the shareholders. The Chairman then repeated what he had said at the meeting of the West End Diamond Mining Company in regard to the evils of competition, and the benefits which would accrue from an amalgamation. He concluded by moving the adoption of the report and accounts.

Col. NAPIER STURT seconded the resolution, which was carried. The retiring directors, Mr. S. Ochs and Mr. H. Mosenthal, were re-elected, as was the auditor, Mr. J. G. Griffiths.

The meeting closed with the usual vote of thanks.

### VICTORIA DIAMOND MINING COMPANY OF DE BEER.

The ordinary general meeting of shareholders was held formally at the offices of the company, 19, Finsbury Circus, on Monday, Mr. CHARLES J. POSNO in the chair.

The CHAIRMAN said: I regret to inform you, gentlemen, that, owing to the non-receipt of the accounts in time, we cannot proceed with the business of this meeting, and it is really only called to be in accord with our obligation to meet this year; and, therefore, all I have to do is to confer with you as to when it will suit you to meet again. The accounts have just arrived; but they have not been audited. I may mention, and I am sure you will be glad to hear, that our accounts have never been so favourable as at the present time. We are raising a lot of blue, and our affairs are looking promising.

After a brief conversation, the meeting was adjourned to Monday, 1st February.

### CENTRAL MINING COMPANY OF DORSTFONTEIN.

The ordinary general meeting of shareholders was held at the offices of the company, 19, Finsbury Circus, on Monday, Mr. CHARLES J. POSNO in the chair.

Mr. CHARLES DAVIS (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said: Gentlemen, you will perceive that we are a little better off this year than last year, and that is the most we can say for these accounts. The position has not materially altered, and I am sorry to have to report that the struggle for the "survival of the fittest" has not yet come to an end. It was intended to put a stop to it, and to make a move in the right direction by amalgamating all the interests in the Dutoitspan Mine, wherein this block is situated; but this has for the time being been set aside for a more comprehensive and larger scheme, to consolidate the interests in the four mines, whereby very much greater benefit will be conferred on everybody having interests in either of these mines. I have just offered a few general remarks on the advantage, and proved by figures to what result a fusion of the interests of the four mines would lead, and I might repeat the same observations. (The general observations made by the Chairman at the West End Diamond meeting, which are given in another column, were then repeated.) I may call attention to another point, and that is that the railway to Kimberley has just been opened, and it is assumed that thereby the cost of labour will be materially reduced, and that all these companies will benefit in consequence. The answer I would like to make to it is that so long as this competition continues, if the diamonds cost so much less we shall have to sell them for so much less, and that the companies if they continue to work independently will be as bad off next year as, if not worse than, we are this year. Of course, the railway would greatly assist the amalgamated company, as all the advantages would be obtained; but in competition it is hopeless to do any good.

Mr. SYDNEY pointed out that one great advantage to be derived from amalgamation was that two of the mines could be worked underground, and two by open workings, and that operations could be suspended at one or other of the properties without interfering with the rest.

Mr. NALDER: You say you are a little better off this year than last. I suppose that is inasmuch as the loss brought forward last year was 4000*l.*, and this year it is 2000*l.*?—The CHAIRMAN: This year, but for the interest we had to pay, the working shows a better result.

Mr. NALDER: Still we are steadily losing, according to these accounts, 2000*l.* a year?—The CHAIRMAN: Quite so.

Mr. NALDER: These accounts show that we have lost the whole of our capital, and have borrowed to the extent of 40,000*l.* or 54,000*l.* Is it so?—The CHAIRMAN: It is an outlay on capital account where capital had not been provided. If the price of diamonds had not fallen the capital would have sufficed. You will notice that the capital is only about 100,000*l.* I do not know whether you are interested in other similar companies.

Mr. NALDER: I am happy to say I am not.

The CHAIRMAN: I am glad to hear it; but if you were you would know that with a block of 128 claims, which were at one time supposed to be worth—if you look at the Anglo-African report—5000*l.* each, what an enormous capital that would give you. Here we started in a very modest manner, and if the price of diamonds had not fallen as they did we should have shown very handsome dividends, because of the smallness of the capital. The capital was spent in plant and machinery, which is, of course, there, and has been at work while diamonds have fallen in price. This explains the position.

Mr. SYDNEY: But I suppose the mortgage could swamp us at any time?—The CHAIRMAN: He could, but he is not likely to do so.

Mr. NALDER: I suppose if this unified arrangement takes place we shall be a little better off some day. In fact, it is our only salvation.

The CHAIRMAN: I do not see any other. We cannot continue to produce against one another; it is only killing one another.

Mr. NALDER: I take it that the directors are not receiving any fees. They are capitalised I suppose?—The CHAIRMAN: There is no money available for that purpose.

Mr. SYDNEY: The capital is 100,000*l.*, and that is represented by the properties which are in hand. The borrowing does not swamp the value of the property; it merely adds to the cost of it. It is a mistake to say that the capital is lost.

The CHAIRMAN formally moved the adoption of the report and accounts.

Admiral MAYNE, in seconding the motion, said: There are three directors of this company upon the Unified Mines' Board, and you may believe that your interests will be looked after, and I have no doubt when we come before you to put the scheme before you, you

will see that we have done our best in your interests, and that you will enable us to carry it through.

The motion was unanimously adopted.

Mr. FLOERSHEIM proposed the re-election of Mr. C. J. Posno as a director.—Mr. G. MOSENTHAL seconded the motion, which was carried.

Mr. FLOERSHEIM also moved the re-election of Admiral R. C. Mayne, C.B., as a director.—Mr. LOWENSTEIN seconded, and the motion was adopted.

On the motion of Mr. SYDNEY, seconded by Mr. CROFTON, Mr. John G. Griffiths, F.C.A., was re-appointed auditor.

The meeting closed with a vote of thanks to the Chairman.

### WEST END DIAMOND MINING COMPANY OF DUTOITSPAN (LIMITED).

The ordinary general meeting of shareholders was held at the offices of the company, 19, Finsbury Circus, on Monday, Mr. CHARLES J. POSNO in the chair.

Mr. DAVIS (the secretary) having read the notice calling the meeting, the report was taken as read.

The CHAIRMAN, in moving the adoption of the report and accounts, observed that in receiving those accounts, it was pleasing to know that there was a small profit instead of a loss, and to that extent they were better off than they were last year. It was very much to be regretted that an undertaking which was started to consolidate the interest of the Dutoitspan Mine had for the time being fallen through; but to remedy that evil, another company had been set on foot with the very much larger object in view of uniting the four mines of Kimberley, De Beers, Dutoitspan, and Bultfontein, and of consolidating the permanent interests of the same. A much greater boon would be thereby conferred on everybody interested in either one or more of those four mines. They must hope that this would succeed, and that they would not have to fall back on the amalgamation of the Dutoitspan Mine as a mine by itself. It was a fact well known to the very few who met daily to discuss these matters what a struggle it was just to earn sufficient to pay rates and taxes and the expenses necessary to the working of those separate blocks, but it was not generally known amongst the public how it was that these mines although rich in mineral wealth produced so little to the shareholders. They ought not to neglect any opportunity of publishing the lessons they had learnt, and that however rich a block might be, however great its mineral wealth, if worked in competition against 99 other companies the results financially must be disastrous. A few companies—one, two, or three out of 100, who were in exceptionally good ground, under exceptionally favourable circumstances earned dividends, and because they had not been made to see yet that their advantage was of a very fleeting character, they had to some extent retarded the operations of the amalgamation scheme. It was exceedingly difficult to deal with them, but the directors hoped that the facts would speak for themselves, and as they would be able to explain them would speak so eloquently in favour of general protection, and of the amalgamation itself, that they would be able to carry out in the end such an arrangement as would be beneficial to everybody. In proof of the commercial crime that was being committed year after year, he would quote a statement from the *Diamond Fields Advertiser* of 10th October last:—

"Diamond dealers have not had a greater surprise for a long time than that created on Saturday last, when our statement appeared of the exports of diamonds for the month of September. There has been so little life in the market, and such an absence of speculation for months past, that the upward turn and the quantity exported last month astonished everybody concerned either in production or buying. As compared with the same month in previous years the difference becomes more striking. We find the returns of exports show as follows:—

|                 |                  |
|-----------------|------------------|
| September, 1882 | 195,234½ carats. |
| " 1883          | 166,748 "        |
| " 1884          | 185,706½ "       |
| " 1885          | 231,729½ "       |

But here the favourable comparison ends, as shown by the declared value of exports for the same month, which appears as follows:—

|                 |                |
|-----------------|----------------|
| September, 1882 | £319,279 11 11 |
| " 1883          | 233,418 1 11   |
| " 1884          | 228,783 1 1    |
| " 1885          | 212,907 19 9   |

The gradual fall in the price of diamonds is, however, more appreciable when we notice the reduced price per carat. Three years ago the average was 32*s.* 8*d.*, two years ago 23*s.*, one year ago 24*s.* 7*d.*, and now it has come down to 20*s.* 11*d.* per carat; and it is only by the recovery of the market in September to the extent of 2*s.* 4*d.* per carat, as compared with August, that even this result was obtained. Are producers prepared to face an annual falling off of 4*s.* per carat, or will they rather regulate production, and make a profit instead of netting a loss? We want them to look well at this subject, and another way of putting it gives the result in a yet more startling way. Say, that the quantity and declared value of the exports for the four months named was 779,419 carats, or 1,024,388*l.* sterling, computed at the several averages, if more attention had been given to moderately supplying, instead of glutting the market, the average of September, 1882, might have been maintained, and diamonds to the value of 250,000*l.* might have been saved to the country, or about 153,000 carats less than the quantity shipped would have given the same value. It must be borne in mind that this is only four months. Now, if we take the period of 36 months on the same basis, how suicidal does it appear that we should go on producing so largely? Few will admit but that the average declared value of shipments for September, 1882, 32*s.* 8*d.* per carat, might have been maintained had there been a common understanding as to production. This being so, let us see how this would have affected our companies in the way of dividend—say, for the three years ending August 31st last. We find that 7,011,382 carats were exported, the gross declared value being 8,292,878*l.* At the average price of September, 1882, the above-named quantity would net 11,451,923*l.* So we have thrown away, in sheer desperate over-production, diamonds to the value of 3,159,045*l.* Rather more than 1,000,000*l.* per annum is a heavy price to pay for experience, but it almost seems that producers will not learn wisdom until it is too late. When the horse is gone it is not of much use to shut the stable door. They had fully considered the bearing of that, and recognise the practical result was that 1,000,000*l.* a year in mineral wealth had been wasted unnecessarily; that was to say, the public had not spent that additional amount because of the inordinate output. They had spent no more than they were able to do, but for the reasons he had previously put before the shareholders, the public had given to them in diamonds a great deal more than they ever expected to get. They had produced the additional quantity at very great cost; they had been compelled to produce them because their neighbours had produced, and because they could not stand still. The effect of standing still would mean that they were deprived of the means of paying rates and taxes, and keeping the block safe. Therefore, they had been obliged to do what others did, and to assist in the destruction of the finest property in the world. What he would add to this was that not only had they wasted 1,000,000*l.* worth of diamonds per annum, but they had wasted annually 1,000,000*l.* of coin at the same time. By working against one another they had produced at the highest possible cost. There had been no understanding possible as to the purchase of everything that was required for the necessities of life or for working the mines. It had been impossible to arrive at any accord on any of these various points, and they had to purchase and pay for labour at the highest possible rates. Consequently the diamonds cost as much as it was possible to produce them at. Then again when they had the diamonds they were compelled to sell them in competition against one another, with the result that they realised the lowest possible prices. To those two evils combined the present unsatisfactory financial statement of this and various other kindred companies might be attributed, and it was by the combination now set on foot that the directors hoped in the course of the coming year to ask the shareholders to meet them again, to confer

about a proposal which he hoped would then be ready for submission to them. (Applause.) At the present time the Unified Mines Company (Limited), called into existence for the purpose of bringing the four mines under one administration, was not sufficiently advanced to make any proposals to them, but they were led to believe that in the course of the year 1886 the work of that company would be sufficiently advanced for them to come together, to discuss the terms of handing over to them their block, together with other companies similarly situated. It might be of interest to them to know that it was the intention of that company to purchase the four mines for an amount of 10,000,000*l.* in shares of that company, as well as to know that somebody had given himself the trouble to reckon out what that company would probably earn. At the present rate of working, the mines were being deepened 30 ft. per annum, and the deepening of the mine at the rate of 30 ft. per annum produced diamonds to the extent of 2,200,000 carats. It was shown that by reducing the output to 1,500,000 carats a profit would be earned of about 1,600,000*l.* on a capital of 10,000,000*l.* By deepening the mines only 20 ft. per annum instead of 30 ft., it would be at once seen that in addition to making that large amount of profit which was then calculated on really an almost safe basis, there would be a saving of 33 per cent. in the mineral wealth which they would keep instead of dissipating it in what he might call a senseless competition. He did not know that he had anything more to say; but he should be happy to reply to any questions that might be put to him on any point in connection with the accounts and the general state of the company's affairs. He would, therefore, now move the adoption of the report and accounts.—Admiral MAYNE seconded the motion, which was carried.

The retiring directors, Messrs. Posno and H. B. Webb, were then re-elected.

The auditors, Messrs. Brown, Stanley, and Co., were also re-appointed.

A vote of thanks to the Chairman and directors closed the proceedings.

### RUSSELL UNITED MINES COMPANY (LIMITED).

A general meeting of shareholders was held at the offices of the company, Drapers' Gardens, on Monday,

Mr. THOMAS STEPHENS in the chair.

Mr. EDWARD ASHMEAD (the secretary) read the notice calling the meeting.

The directors submitted the following encouraging report from the manager (Captain Bray), showing the work that has been done since the last printed report (2nd June last), and the present prospects of the mine:—

I have the pleasure to submit herewith my report of the operations in the above mine since 2nd June last:—Stephens' Engine Shaft: The 57 west has been driven 27 fms. 5 ft. 4 in.; throughout this distance the lode has varied in size from 2 to 5 ft. wide, with an underlay south 1 ft. 6 in. in 1 fm. For the first 10 fms. of this drive the lode was worth 6*l.* per fathom for tin, when we intersected a small branch 'crossing this drive in a southerly direction, which cut off the tin ground, and disordered the lode for 3 fms. It then again opened out in size and character, and for 5 fms. 2 ft. it was worth 10*l.* per fathom for copper, when it again became less in value—8 fms., worth 4*l.* per fathom. I am very pleased to say the lode now in the drive is 5 ft. wide, with a leading part on the north wall, which is 2 ft. wide, and worth 7*l.* per fathom for copper. From the strong indications this morning we may fairly expect to cut into a course of copper any hour. I very much like its appearance. A rise and stop has been put up upon this level, for 5 fms. long, 2 fms. 4 ft. 9 in., where the main part of the lode for 2 ft. wide is worth 4*l.* per fathom for copper, and from the appearance it is likely to improve, and going up into whole ground the chances are it will lay open large portions of profitable ground. This level (the 57) has been driven east of cross-cut 3 fms. 2 ft. 8 in., when the lode became poor, and it was thought advisable to suspend it for a time. The deep adit level has been extended east 25 fms. 5 ft. 7 in. The lode for the first 17 fms. was small and disordered, when we intersected a large cross-course 4 ft. wide underlying a little west, composed of quartz, pryan, and peach, and spotted with copper and lead; 2 fms. 2 ft. 2 in. were driven north on its course. We have since driven east on the course of the lode 6 fms. 4 ft. 2 in., where the lode is 4 ft. wide, underlying 1 ft. 6 in. per fathom to the north, composed of quartz, pryan, peach, and a little copper ore, not to value, with a leading branch on the north wall 6 in. wide, leaving out water very freely. I look upon this as being favourable for an early improvement. A rise has been put up above the back of this level (48 fms. from the mouth of the adit) 4 fms. 1 ft. 4 in., and stopped 69 fms. 2 ft. 10 in., the lode varying in size from 12 to 4 ft. wide, producing a little tin, but I am sorry to say not in paying quantities. The lode now in the back of these stopes is 4 ft. wide, producing sufficient quantities of tin to pay its cost, with indications for an improvement.—Surface Work: Large quantities of ground have been excavated and the new 12-head stamps are erected, also four new 14 ft. buddles, with necessary slime pits, and all requisite masonry work completed. A 12-ft. water-wheel has been put up for working the dressing machinery and cleaning tinstuff; also a tramroad laid down to carry away all the "deads" from the dressing-floors at the lowest possible cost. I am pleased to say that everything is now working well. You will notice that the lode in the deep adit level is underlying north; in the 57 west the underlay is south. Between these two points there must be a cross-course or some heave. After driving the deep adit level a few fathoms east, and no change takes place in the ground or lode, we shall then drive north or south as circumstances may dictate, but I am of opinion this will come right. In conclusion, I beg to say we must take in some ground at Stephens' shaft for the purpose of depositing the stuff, and laying out a small dressing-floor to clean the ore coming from the 57. The directors went on to say that since the last annual ordinary general meeting, held at the commencement of this year, the nominal capital of the company has been increased from 36,000*l.* to 50,000*l.* In June last special resolutions were duly passed for the creation of 14,000 new shares of 1*l.* each, to be issued at a discount of 15*s.* per share. These new shares, and 2700 forfeited, were offered, *pro rata*, to all the shareholders—12,118 being accepted and allotted. The balance not accepted, 4582 shares to complete the capital of the company, will be forthwith offered proportionately to the subscribers of the above 12,118 shares. Any that may be further declined will be dealt with as the directors may deem fit. The audited balance-sheet, submitted to this meeting, is made up to the end of the company's financial year (the 30th June last). The following statement shows the receipts and expenditure since, and the present financial position:—Calls made, 2*s.* per share on 12,118 new shares, 1211*l.* 16*s.*; tin whites sold, 197*l.* 5*s.* 9*d.*; copper ore sold, 146*l.*; total, 1555*l.* 1*s.* 9*d.* Balance against company, as per balance-sheet, 102*l.* 2*s.* 10*d.* Total expenditure since, for labour, merchants, purchase and erection of stamps, and London expenses (five months), 1332*l.* 12*s.* 10*d.*; total, 1434*l.* 15*s.* 8*d.*; balance, 120*l.* 6*s.* 1*d.*; 3*s.* per share uncalled on the 12,118 new shares allotted, 1817*l.* 14*s.* 5*d.* per share on 4582 shares to be allotted, 1445*l.* 10*s.*; total, 3083*l.* 10*s.* 1*d.*, exclusive of ore in course of being raised at the mine.

The CHAIRMAN said: Gentlemen, the balance-sheet for the year ending July 31st, and the supplementary statement of accounts up to the present time show you exactly our financial position, and explains itself. I shall, however, be pleased to reply to any question and give every information you may require. It will be unnecessary for me to refer to the works at the mine, as Capt. Bray's report, which I think we shall all agree is most satisfactory, gives every information as to what has been done, and what are our future prospects. I may, however, say that I have recently visited the mine, in company with Mr. Hamilton, and we are both much pleased with the progress that has been made, also with the result attained, and the cheering prospect before us. Gentlemen, I have now pleasure in moving that the report and audited accounts be passed and adopted.—Mr. N. J. PEARTIS seconded the motion, which was put and carried.

Mr. STONY moved that the retiring director, Mr. Thomas Hamil-



ton, be re-elected, and that the appointment of Mr. N. J. Pertis and Mr. A. F. Edwards, as directors, be confirmed. He believed those gentlemen were largely interested in the company.

The SECRETARY said they were.

The CHAIRMAN seconded the motion, which was carried.

Mr. STORY moved the re-election of Mr. H. Waddington as auditor.—Mr. A. F. EDWARDS seconded the motion, which was carried.

A short informal discussion ensued, and in reply to Mr. STORY,

The CHAIRMAN said that the rise and stope which was going up in back of deep adit would more than pay expenses. The tin and copper which was discovered at Stephens' was very rich. At present they could not take away the ground they had discovered by stoping, because they had only a whim which would just take away sufficient to keep the drive clear, and it would be unwise to put up hauling or dressing machinery there, because in seven or eight months' time they would effect communication between the 57 fathom level and the adit, and by this means an excellent output to the old mine, where our machinery was erected, and we had advantage of water-power. There was no doubt they were opening a very valuable piece of ground, as would be seen by the particulars given in Capt. Bray's report. But at present the great object was to effect communication between the adit and the 57, and until they did that they would not take away by stoping. He was down at the mine last week with Mr. Hamilton, and it was looking very well indeed.

The proceedings then terminated.

#### SAMUDA BROTHERS.

The statutory meeting of shareholders was held at the City Terminus Hotel on Monday.—Admiral Sir W. HEWITT presiding.

The CHAIRMAN said the company was registered on August 25, with a capital of 100,000*l.*, in shares of 10*l.* each. The prospectus was issued on September 3, and the capital was fully subscribed. The properties of the late firm of Samuda Bros. were surveyed by the well-known firms of Fredk. Maynard, and Messrs. Price and Waterhouse. The lease, buildings, plant, and machinery were agreed to be of the value of 45,000*l.*, having been valued at that figure by Messrs. Fuller, Horsey, Sons, and Castle. The stores and loose tools were taken over at the valuation by the same firm for 11,000*l.*; but the valuation was really made at 15,120*l.* The purchase was in due course completed, and the capital subscribed left 35,000*l.* for working capital. Any works on hand were to be executed for the account of the old firm. Under a liberal interpretation put on this arrangement, the company as now constituted had not been called upon to pay anything for wages. The managing director, Mr. Kelson, had submitted tenders for work, some of which had been rejected, and some of which were not yet completed. It must be borne in mind that the company had only been in full operation for about three months, and on reference to the books of the old firm it was indisputable that frequently an interval of nine months occurred before large orders were secured. He begged to say that this being a statutory meeting there were no report and no accounts to present, but he should be happy to answer any questions.

Mr. DUNCAN said there was a point he did not quite understand; the Chairman had stated that the tools had been valued at 15,000*l.* odd, and were shareholders to understand that the company had really paid only 11,000*l.* for them?—The CHAIRMAN, said that was so. They got them at the lower price, and that was 4000*l.* gain to the company.

Mr. KELSON said that although a number of tenders had been sent out, and some had been rejected; there were some out from which the company expected to receive orders. There were actual refusals for about 10,000*l.*, which, with other contingent work, would probably bring the amount up to 20,000*l.*

Mr. THOMAS asked if there was any work of the old firm still in hand, and, if so, how long such work would occupy before completion?—Mr. KELSON: The work is almost completed.

Mr. WILSON: It would be satisfactory to the shareholders to learn what the current expenses are, and how many men are at present employed.

Mr. KELSON: The expense is for the old firm. At the present we only have some draughtsmen to prepare the necessary work for tenders at a cost of some 5000*l.* This is absolutely necessary, although the new company has not yet commenced work.

Mr. THOMAS: What is the amount of capital in hand for carrying on the business, after making allowance for necessary charges?—The CHAIRMAN: About 24,000*l.* The workmen have been paid by the old company, and not by the present company.

Mr. DUNCAN asked whether it would not be possible to defer the forthcoming call of 2*l.*, seeing that the company had no orders?—The CHAIRMAN: No. At any moment we may obtain an order, and that would require capital.

Mr. MACE said the company had bankers, and money would be advanced at any time for the execution of orders.

Mr. THOMAS said the prospectus distinctly stated that calls were to be paid at fixed dates.

The CHAIRMAN, in answer to a SHAREHOLDER, said the company tendered not only for war-ships, but dredgers, lighters, boats, floating bridges, and everything of the kind. If they did not make the calls, the company might appear in a wrong position if they were suddenly left without money. If the call was made, the money would be left with their bankers at the call of the company.—After some further discussion, a vote of thanks to the Chairman was passed, and the proceedings closed.

#### THE VAN MINING COMPANY (LIMITED).

The ordinary general meeting of shareholders was held at the offices of the company, Washwood House, New Broad-street, on Friday, December 18.—Mr. CHARLES CLARK (the Chairman) presiding.

Mr. W. J. LAVINGTON (the secretary) read the notice calling the meeting; the report and accounts were taken as notice.

The CHAIRMAN said: Gentlemen, with your permission I propose that the directors' report and the statement of accounts as now presented be received and allowed. In doing so I am thankful to feel there is no necessity for me to occupy more than a very few minutes of your time to-day. You have had the whole of the statement of accounts in your possession for some days, and the facts we are to deal with are in such a small compass and so easily grasped that any detailed remarks from me would tend rather to obscure than to complete them. We have the manager, Captain Williams, present, who is prepared to state the whole of the details of the works, which are perhaps difficult to follow as represented here, but which he will elucidate by showing you on the plan, and showing you the exact position of the workings. There is one slight error in Captain Williams' report, in about the middle of the report, in which it reads that in the long cross-cut in the 120 fm. level the south lode is productive for 44 ft. wide, and dipping west under the grit. That should read dipping east. In another paragraph, lower down, the word "since" has, by a printer's error, been introduced. The paragraph reads, "Since we have now ample communication between the eastern and western portions of the mine through the 90 and 120 fm. levels, and again very shortly through the 150." The word "since" should be omitted. Of course the western or new portion of the mine has been that which has occupied our attention chiefly during the year we have been at work, and it is a great satisfaction to the directors to be able to announce that we have reached the lode at the 150. We consider the sinking of the shaft and the development of the mine so far as they have gone fully justify the anticipations which were held out at the commencement of our operations, and we think also that the policy for the future, as mentioned by Captain Williams, is clear and unquestionable—to prosecute the driving of the 150 east and to get under the ore ground, and to continue the sinking of a winze with all speed. The eastern portion of the mine is becoming gradually exhausted. One of the stopes has been finished, and we must expect gradually that we shall cease to have returns from that portion of the mine, because we have taken all the ore-stuff away. But it is important to bear in mind that the whole of our earnings during the current year

have come from the eastern ground, and we have the whole western portion standing untouched. (Hear, hear.) Nothing has been taken from there except what came from the drivages. Mr. Batters and myself have visited the mine three several times, and no doubt Mr. Batters will explain his views and opinions; but probably all necessary purposes will be secured by hearing what Captain Williams has to say, and putting to him the most exhaustive questions you can think of, so that nothing is left doubtful or uncertain. I beg to move the adoption of the report and accounts.

Mr. GEORGE BATTERS: I beg to second that. The Chairman has placed the affairs clearly before you. I never read clear or more understandable accounts in the course of my life, divested as they are of the ordinary items of mystery which one sees in most accounts. I think the agents' report is equally clear, and the question for us now to discuss would be to appear, taking a practical view, is what we propose doing, what we lay out for ourselves in the future, and what the prospects are of these operations being successfully carried out, and what the results if successfully carried out. There cannot be a doubt but that during the last year the sinking of the 30 fms. in the engine-shaft, the driving out of the cross-cut a distance of 64 fms. south, are very great achievements as mining works. (Hear, hear.) There are very few mines in Cornwall or Wales which can manage to cut down an engine-shaft 10 fms. in a year; but here not only have 30 fms. been sunk, but a long cross-cut has been driven, and a portion of lode has been driven into, and you are turning round to drive into the soft part of the lode to go under the winze which has been sunk down to the 142—that is, from the 135 down 7 fms. to the 142, so there is only a very short distance further to sink in the winze and drive up in this level which has been commenced from the bottom of the mine—the 150, so you may have a communication there, which would so far improve the ventilation as to enable you to work the mine economically. If you consider the difficulty the agent has had to contend with in the level above, and that he has had to draw the stuff up by hand tackle before he could bring it to surface by hand power—if you consider the difficulties he has had to contend with, the achievements which have been accomplished in that part of the mine have been very considerable, inasmuch as discoveries have been made. The object of your directors in bringing up your agent here to-day was that he might explain to you personally the position of the workings, for such personal explanation is better than any explanation you may receive second hand. I put to myself the question—What do you intend to do in the next twelve months? To get the communication with the 150 fathom level with the winze, which has gone down, and open up the course of ore. This course of ore will then be worked away to be brought to surface in an economical manner. Instead of drawing by hand tackle from these considerable depths before you can bring the engine to bear to draw it to surface, the stuff will be dropped to the 150, and drawn to surface by perpendicular shaft. Now, you understand the difference between dropping the ore matrix to the bottom of the mine and drawing it to surface, instead of, as now, drawing it by hand tackle to the head of the 30 fathoms. What are your prospects of success? Has the agent made discoveries, or have they to be made? He says he has made them, and proved the course of ore to exist, and you have only to drive to the east and go in and take it away. Is that so, Captain Williams?—Captain WILLIAMS said it was so.

Mr. GEORGE BATTERS: A short time back he put out a feeler into the lode in the winze which he is sinking, and there discovered a course of blende worth 6*l.* per fathom; that, he says, is now mixed with steel ore, and, as in the old winze, you had a large quantity of ore similar to this, it is not too much to hope that you will have a considerable quantity of lead in depth, for he tells me it has improved in value, and is worth quite 8 tons to the fathom. That is a very important point, as much as the drivage you have commenced will go under the blende about 8 fathoms. That is a very important point. A mine cannot live for ever upon stopes; and Mr. Clark, our able and painstaking Chairman, who visits the mine periodically, tells us that the stopes will be in time exhausted. But we hope we have a long life before us as yet. It will take many years to clear out a mine like the Van in the old workings, and there are these new workings coming in which should give us some reward for our patience and enterprise in carrying out these works. We are not waiting for something which is likely to be realised, but we have a hope, and we want to know when it will come off. We shall not live for ever, and we want a dividend to-day and to-morrow, and not years hence. (Cheers.)

The resolution for the adoption of the report and accounts was then put and carried.

On the motion of Mr. BOLTON, seconded by a SHAREHOLDER, the directors, all of whom retired, were re-elected—Messrs. Charles Clark, George Batters, J. Y. Watson, and F. J. Catling.

Mr. BOLTON then proposed the re-election of Mr. Stephen Catterton, as auditor, and said that, as a public accountant, he considered that the accounts presented were exceedingly creditable accounts.

Mr. SUCKLING seconded the motion, and suggested, in future, the item of "Sundry creditors—merchants, rents, and royalties unpaid, &c.," which stood at 532*l.*, should be separated; then the shareholders would be able to know what was for merchants and what for royalties.

The CHAIRMAN said this should be done. As to the item in the present accounts, about one-third was for merchants' bills and two-thirds for royalties.

The resolution was then put and carried.

The CHAIRMAN said that concluded the formal business, and now the shareholders could ask Capt. Williams any questions they thought fit.

A SHAREHOLDER asked how far apart the two shafts were?—Capt. WILLIAMS: About 200 fathoms.

Mr. GEORGE BATTERS: What distance will you have to drive before you get communication with the winze and give ventilation, and what length of time will it take?—Capt. WILLIAMS: We have 20 fms. more to drive, which I hope we shall accomplish in two months' time. We are down half way, and we drive 4 fms. a week with the rock-drill, and I hope, as I say, to be able to drive it in two months.

The SECRETARY: Will the winze be down about the same time?—Capt. WILLIAMS: Yes.

Mr. GEORGE BATTERS: And will that enable you to take away ore?—Mr. J. Y. WATSON: He had better explain how the ore is dipping away.

Capt. WILLIAMS, by means of a section, explained the dip of the ore, and said that if the deep adit cross-cut had been 3 fms. to the west the mine might have been abandoned, as they might have missed the ore. They drove east on a good lode and cross-cut through, and drove to west, and found the western portion of the ground the best. Since the last meeting the western shaft had been sunk to below the 150, and there they had cross-cut 60 fms. south, and got into a valuable piece of ground, which was similar to what they had previously found in another part, and there was more or less lead for a considerable distance, and upon one of the branches they drove upon a lode worth from 1 to 4 tons of lead per fathom. At the end of this they crossed south, driving 6 ft., and the branch seemed to be widening out, and afforded indications of continuance.

Mr. GEORGE BATTERS said this was important. They had driven through a course of ore independent of the rich portion of the lode. He asked Capt. Williams how much backs it would give from the 150 to where they had discovered and driven it through, and what was the estimated cost per fathom?—Capt. WILLIAMS said the height of the backs was 30 fathoms, and it was in good ore.

The SECRETARY asked Capt. Williams whether he considered the lode better in the 135?—Capt. WILLIAMS: Yes; it is more consolidated, and we can work more cheaply. We have 6 ft. wide of ore-ground in the 135 fm. level. We cross-cut at the end, and found it good. At the 140 fm. level we put out a short cross-cut, where they had been recently working in the old Van lode and we found a lode worth for blende 8 tons per fathom. We are, not quite through the lode yet, but we have seen enough to know that the lode is alive, well defined, and strong and kindly, in fact, everything we should wish to see it. It is worth 18*l.* to 20*l.* per fathom, and this week it is getting mixed with steel ore. In another

fortnight I shall have spent 20 years on the Van Mine, and, therefore, know it thoroughly, and, as far as we can possibly see, we are of opinion that we are going to have a rich body of lead. The main lode has never looked so well as down here. Capt. Williams proceeded to say that they were now able to work with one engine instead of two. He pointed out that the tramway would go along the water level, and the cost of it would be a mere nothing except for a few sleepers. There would be ample ventilation between the two mines. They had 44 ft. of ore ground outside the main lode going down strong. He was now speaking of the south part of the mine. The fact was they had discovered the south lode, but it would not make up to the surface as there was a point of grit. The surface they started from was the 130.

The SECRETARY: With regard to the recommendation you make to drive eastward, is that to be on the south lode or the old lode?—Capt. WILLIAMS: On the one where we get the best lead. So far as I see at present I shall drive on the old lode.

Mr. GEORGE BATTERS: I am rather conservative on that point. I would rather stick to what you have. If you have a good course of ore drive upon it. Do you think, Capt. Williams, you can work the mine to a profit when you open up the ground?—Captain WILLIAMS: Certainly, when we draw from the bottom, and have the tramway, there will be 25 per cent. saving in labour.

Mr. GEORGE BATTERS: If you increase the returns to 100 tons per month, and have the blende coming in, you can tell the shareholders they will have a dividend?—Captain WILLIAMS: Certainly I can; the heavy expenditure is done.

Mr. GEORGE BATTERS: Are we likely to get a profit?—Captain WILLIAMS: Certainly.

Mr. GEORGE BATTERS: Then make haste and do it. (Cheers.) You have dressing-floors and everything to hand, and if we cannot do it cheaply no one can do it cheaply.

Captain WILLIAMS: We have not as yet increased to 100 tons per month, as we have raised no lead in one part. These two levels will enable me to increase to a considerable amount.

The SECRETARY: The total cost is between 600*l.* and 700*l.* per month.

Mr. BOLTON: Instead of giving what you did last year you will be able to send up sufficient to give us 100 tons of lead per month, besides blende?—Captain WILLIAMS: I can do that.

Mr. GEORGE BATTERS: We will give him the increase of blende in, and will ask him to give us 1300 tons of lead, which will be 500 tons more than last year, and if we get the average of what we got for our last sales—say 9*l.* per ton—it will give 4500*l.* more, which will give an ample dividend on the capital of 15,000*l.*

A SHAREHOLDER: What is the royalty?—The SECRETARY: 1-14th.

The SHAREHOLDER: If lead had been at the price it was last sale we should have paid a dividend to-day?—The SECRETARY: It would have made a difference of 1000*l.* to us.

On the motion of Mr. BOLTON a cordial vote of thanks was passed to the Chairman and directors, and the proceedings closed.

#### LEVANT.

A 16-weekly meeting of the adventurers in Levant took place on Tuesday.—Mr. RICHARD WHITE (the purser), presiding.

The labour costs were 5620*l.* 3*l.* 4*d.*; merchants' bills, 1426*l.* 19*l.* 10*d.*; coal, 402*l.* 0*l.* 2*d.* The tin sold—140 tons 17*l.* cwt. realised, less dues, 6836*l.* 6*l.* 4*d.*; copper—276 tons—less dues, 1412*l.* 12*l.* 3*d.*; arsenic—50 tons—less dues, 220*l.* 1*l.* 5*d.* The profit was 1317*l.* 3*l.* 5*d.*; this increased the credit balance to 1817*l.* 9*l.* 4*d.*

The agents' report was of a satisfactory character. It predicted equal returns of tin for the next 16 weeks, but said the returns of copper might not be so large.

The report and accounts were adopted, and a dividend of 10*l.* per share was agreed to, this allowing of 624*l.* 17*l.* 4*d.* being carried forward as credit balance.

Subsequently the shareholders dined together.—Mr. WHITE in the chair.

The CHAIRMAN, in proposing "Success to Levant," said he was very pleased to meet the adventurers to-day under so favourable circumstances. They had declared a dividend of 10*l.* per share, and carried forward a balance of profit on the four months of 100*l.* He thought the old mine was turning out most satisfactorily—even better than they had expected. Not only had they been making a profit by the old mine in the past two accounts, but they had been opening up the new mine—(hear, hear)—and he felt they had reason to be gratified. (Hear, hear.)

Mr. QUICK (surgeon) did not think the agents should be called upon so soon to respond, and would like to say a few words in connection with the toast. They were very much indebted to their agents. As a body of adventurers they were greatly indebted to their young men. Their work had opened his eyes, and he hoped the eyes of the public. Probably they were the first shareholders of any mine in Cornwall to take three young men out of the ranks and put them in as agents. He was satisfied with the result of the appointment, with the results they had brought about. (Hear, hear.) Facts were stubborn things, but a reality, and he most gladly supported the toast of the agents.

Captain NEWTON first responded. He was glad to meet them under such excellent auspices. He did not know that he could in any way add to the report. Their idea was to work the mine extensively, and to give as many men employment as they possibly could, working at their advantage. This had been their policy ever since they had been connected with the mine. They had opened every point they deemed worthy of speculation. He was gratified that they had been successful, and he was more pleased to find the shareholders satisfied. There was something he thought should be done. Their mine was very deep and very hot, and he felt that for the benefit of the working men they ought to sink the main engine-shaft. He believed it would save half an hour in every man's labour, and that saving would be for the benefit of the mine. That was his opinion about the working of Levant. He did not see why they should not give a similar dividend as that day's sixteen weeks' hence. (Hear, hear.) They would work the mine manfully, doing their best for the adventurers, and for the working people of St. Just. (Hear, hear.)

Captain TREMBATH, in reply, said he was glad to meet the shareholders under such happy circumstances. They all felt gratified when they gave a dividend. He hoped this was the beginning—that they should increase their profits; they could anticipate this, having regard to the mineral they could see. The mine was now in a good working position, and yet they saw their way to open the mine up so as to employ more men. (Hear, hear.) They had had a discovery at the 260. They hoped this would be of good use to them. During the next 16 weeks they hoped to maintain their returns. (Hear, hear.)

Captain NANKERVIS was glad matters were so satisfactory as they were. As to exploration work, in the last four months it was most satisfactory that things were as they were. (Applause.) They had a good point in the 278 end going east. Since the last meeting they had the 266 on the same lode. This latter end was looking "keenly"—favourable. He was satisfied with the western ends. The 230 end was worth 13*l.* per fathom. He considered that an excellent point. Dr. Quick had referred to them as "young agents." They were, but they had put their shoulders to the wheel, and done their best for the working men and the adventurers—that had been their aim since their connection with the mine. The sinking of the new engine-shaft was a great thing. Men's labour meant money now. And there would be the saving of money in the sinking of the shaft. They did not know what was below. In sinking they would be opening up the mine as well. He trusted the time would come when they would double their dividends. (Hear, hear.)

The CHAIRMAN, proposing "The Health of the Engineer," referred to the erection of the new engine, and said that in 12 months they had spent, in respect of it, from 1000*l.* to 2000*l.*, and that this amount had been paid out of their reserves.

Mr. EUSTACE (engineer) in response, observed that he thought the adventurers had done a good thing. Having spoken of the possibility of the mine westward losing temporarily, and being rescued



in prosperity by the new part of the mine, though hoping such would not be the case.

Mr. QUICK remarked that he believed whatever happened the western ends would not fail. He felt strongly they could sink a shaft at Cape Clear (the opposite side of the Atlantic), and find their tin lodes. (Laughter.) Well, they might laugh, but they had an engineer there at one time who was so convinced of their tin lodes running under the Atlantic that he said he was certain they could follow them to — (Loud laughter.)

Mr. QUICK next proposed the health of the Chairman, eulogising him for his services to mining in the case of Levant. The Chairman had nearly ruined himself in local mining, and he hoped he would be recouped.

The CHAIRMAN suitably replied, and the proceedings closed.

#### WEST FRANCES.

A 16-weekly meeting of shareholders in West Frances was held, on Tuesday.—Mr. WALTER PIKE (pursuer) in the chair.

The accounts showed:—Labour costs, 3742l. 6s. 9d.; merchants' bills, 1676l. 13s. 3d.; total, 5419l. Credits—black tin sold, 106 tons 1 cwt. 6 lbs., 5324l. 2s. 4d.; less dues, 1-30th, 177l. 9s. 4d., 5146l. 13s.; extra carriage, 14l. 17s. 6d.; loss on the 16 weeks, 257l. 9s. 6d., which added to the debit balance brought forward from last account made the total balance against the mine, 657l. 9s. 11d.

Captains Josiah Thomas, W. Rowe, and W. Thomas (the agents) reported as follows:—We have not been able to do anything in the rise over the 174 since last meeting from fear of meeting with some old workings, which might be full of water, as explained in our last report. We have, however, been continuing the sinking of the new shaft as rapidly as possible by 16 men. This shaft is now 38 fathoms below the surface, the last 9 ft. being below the lode, which produces a little tin. After sinking a few feet further we intend to put a boring machine in the shaft, by which we hope to be able to sink much more rapidly than we can do by hand-labour. The end has been driven westward from the rise since the last account by boring machine, and is now 75 fms. west of the rise, so that we have driven 39 fms., or close on 10 fms. per month, during the last four months. The lode has somewhat varied in value; but, on the whole, the end has passed through fairly productive tin ground. The lode in the present end is worth 25l. per fm. There are now about 35 fms. of unexplored ground standing between that end and the 150 east, in Wheal Grenville. The winze under the 174 is sunk 5 fms. The lode is worth fully 20l. per fathom. The extra cost incurred in sinking the new shaft during the past four months, including labour and materials, has been upwards of 800l.

Captain JOSIAH THOMAS remarked that, owing to the water in the mine last week, they were unable to draw for a day or two, and they had held the account two days earlier than usual, because it was Christmas time. They would exactly have paid costs but for the water coming in last week. They had the stuff now at surface, and they had actually sampled 5 tons more than they had sold, and which was not credited in the accounts. All they were aiming at at present was to pay costs, considering the great expense they were put to in sinking the new shaft. They had to work in a very disadvantageous and costly place, and they must be opening up a mine of very considerable value to pay costs under such very disadvantageous circumstances. (Hear, hear.) The level driven west 76 fms. was all in whole ground, as there was nothing between there and surface, and nothing under that, except the end coming from Wheal Grenville, which was 35 fms. short of where they were now. In Wheal Grenville they had passed through two good courses of tin, and those two runs of tin must come into West Frances sett. They must meet with them in driving their level still further west. They could not speak definitely as to the size of the lode. They had valued it at 6 ft. wide, but it was probably much larger; and taking it at the whole probable length it might be worth about 100l. per fathom. (Applause.) It was impossible for them to do better until they got the rise through, and a skip-road fixed in the shaft. It would be utter folly on their part to try to raise more tin at present under existing circumstances. (Hear, hear.) They were hoping to sink the shaft 6 or 7 fms. a month by boring machines, and it was possible they might hole it in from two to three months; and after they had put in a skip-road the shaft would be in a fair way of working. No one would think of continuing the rise with the chance of drowning the men in the mine. (Hear, hear.)

Mr. CLINTON: What is the length of the rise?—Captain JOSIAH THOMAS: 180 fms.

A SHAREHOLDER: How much stands now between the rise and the bottom of the shaft?—Captain JOSIAH THOMAS: 20 fms.

Mr. CLINTON: What was the average of the stuff raised?

Captain JOSIAH THOMAS: All the stuff that we have sampled, taking the ends and stopes and everything, has been worth on an average for the four months 82½ lbs. of tin to the ton. During the previous four months the average had been 75½ lbs. to the ton.

Mr. HEARD: With fair average speed you expect to hole the shaft to the rise in about 3½ months?—Captain JOSIAH THOMAS: We hope so, if we are not hindered by the water, and we do not apprehend that we will be.

Mr. PIKE, in reply to Mr. HEARD, said the present price they were receiving for their tin was 53l. 15s. Last meeting it was 52l. 12s. 6d. The average for the four months had been about 52l.

Captain JOSIAH THOMAS said that was not such a large average by 5s. as the one for the preceding four months. The prices were high last time at the beginning of the quarter; this time they were highest at the end.

Mr. H. LOWRY asked whether they were likely to make preparations forthwith for the skip-road for the new shaft?—Captain JOSIAH THOMAS said they could not put in the skip-road until the shaft was holed, but they would have it all ready to put in as soon as the shaft was completed.

Mr. PIKE, in moving the adoption of the report and accounts, said he was rather disappointed that they showed a small debit balance, but practically they were paying costs.

Capt. JOSIAH THOMAS: We have quite sufficient stuff on hand to turn the small loss into a small profit. (Hear, hear.)

Mr. PIKE said although they could not report that the shaft had been holed to the long-expected communication with this rise, yet during the time they had not been idle, for they had been exploring the western part of the mine, which had shown a very valuable piece of tin ground. At the next meeting they hoped to report that the shaft was holed, and that the large costs now being incurred in sinking the shaft would be ended. In sinking the shaft they had laid out this time about 800l., and the large amount of extra tramming raised the amount to about 1200l. altogether. He was glad to see such a large number of shareholders present, and that share list was steadily increasing. He believed those who had invested in West Frances would now be rewarded for the money they had expended. (Applause.)

Mr. HEARD: When you hole the shaft do you expect that your returns will largely increase?

Captain JOSIAH THOMAS: I suppose they will. I do not like to be too sanguine in my promises, because if what one says is not quite fulfilled, at the next account we are then told we have not fulfilled our promises.

Mr. HEARD: I do not think Cornish mine adventurers are very unreasonable on that point. We have gone through a long lane here, and the people who have been waiting for such a very long time would like to know if, when the shaft is holed, there is a probability of the returns being increased?—Capt. JOSIAH THOMAS: Oh, yes; and the cost will be considerably reduced.

Mr. HEARD: I think, without desiring to bind the agents, we may fairly say that, in the course of six months from this time the great difficulties we have been contending with will be overcome; that very considerable cost will be curtailed; and that the returns will very considerably increase. (Hear, hear.)

Captain JOSIAH THOMAS: I do not think you are far out. If the ground continues of the same quality we will have a considerable increase.

Mr. HEARD asked if they were doing anything in the eastern part of the mine?—Captain JOSIAH THOMAS said they were not

at present, but they intended doing so when the new shaft was finished. The flat lode was standing almost unexplored all the length of the sett to the east.

Mr. HEARD said there was another question which had been spoken of for a long time, and which he would like again to refer to, and that was the margin between the smelters' and the miners' price of tin. That margin was now very much greater than it used to be. The increased margin taken by the smelters meant a difference to the adventurers of about 20,000l. a year. Now, they could not fail to remember that but very few of the Cornish mines were paying their way. The dividend-paying mines might be counted on their fingers. With the exception of Levant there was no dividend-paying mine west of Dolcoath, and none east of Redruth (Mr. Clinton, Phoenix). The margin was said, by those competent to form an opinion, to be larger than could be wished. If the smelters could see their way to reduce the margin, he felt sure the Cornish adventurers would regard it as a favourable feature. (Hear, hear.)

Mr. PIKE, in reply to a SHAREHOLDER, said everything was charged close up. There were no shares in arrear of calls.

Mr. F. VIVIAN: The 35 fms. between your western end and the end coming east from Wheal Grenville are totally unexplored?—Capt. JOSIAH THOMAS: Yes.

Mr. H. LOWRY said it appeared to him they had a very good thing indeed in West Frances. (Hear, hear.) At the next meeting he believed they would have occasion to heartily congratulate themselves, and Capt. Josiah Thomas would deserve their hearty thanks for the manner in which he had opened up the mine. The accounts and reports were adopted.

#### BALKIS CONSOLIDATED.

The first general or statutory meeting of shareholders was held at the Cannon-street Hotel, on Tuesday.

Colonel MALLERSON in the chair.

Mr. F. POWER (the secretary) read the notice calling the meeting.

The CHAIRMAN said that at a statutory meeting no business was transacted, but he should be wanting to the board and to the shareholders' expectations if he were not to make some remarks as to the work which the board had undertaken since that was constituted, and gave the shareholders the same information which the directors had regarding the proceedings which had been adopted and had caused to be adopted in South Africa. It was not until the 20th September last that the directors thought it advisable to go to allotment, and, therefore, until that date it was impossible to carry out those measures which the shareholders of the old Balkis Company had in contemplation, and which were notified at the last meeting. He was happy to say the board had, in a great measure, succeeded in carrying out some of the expectations which were then formed, and in order to tell the shareholders how the directors had carried them out, what the expectations were, and what the result had been, he would divide the subject of the property under its natural headings. The Balkis Consolidated Company possessed three great properties in Africa, one called the Eersteling, another the Graskop, and besides that there were 42 farms which were generally known under the name of Mear's farms because the old Balkis bought them from a person of that name. When the present board succeeded to the place they now occupied the Eersteling property was burdened with a mortgage of 30,000l., the Mear's farms were not in possession of the company, and the Balkis Company was hopeless of being able to obtain from Messrs. Hollard and Keet the reef which formed the richest part of the Graskop farm property. The first attention of the board was directed to remedying these three great failings. As regarded Eersteling, two engineers were dispatched to survey that farm, and in a few moments he would read extracts from the report which was sent home, in order to show the great value of the farm. In the first place it would be satisfactory to the shareholders to know that the directors had paid off the 30,000l. on the Eersteling farm in shares of the present Balkis Company at par, and, therefore, they possessed the Farm Eersteling without encumbrance, with the exception of 1500l., which had to be paid the moment the telegram reaches this country that the farm had been registered in the company's name. The directors expected every day to receive that telegram; and he was sure it would be as much a matter of satisfaction to the shareholders as to the board when that telegram arrived. With regard to the value of the Farm Eersteling, it might be interesting to the shareholders to learn something on that subject from the report of two young engineers who were dispatched during the past few months to survey that farm. Those who had seen the prospectus of the company would recollect that the Farm Eersteling had been worked before the war in the Transvaal by a private company, and a great quantity of gold had been extracted, and that private company came to grief simply from the war which raged between the Boers and the natives on the one side, and the English and the Boers on the other. He would read an extract from a letter dated 16th of October last regarding the state of the Farm Eersteling. The two engineers considered it to be the best gold field that they had met with in the Transvaal. They said:—

"There is a considerable deposit of alluvial on Eersteling farm. Some very rich patches have been found in the creeks. One digger took away 120 ozs. from Dans Point, and other big finds have been made. Up to the present time the terraces have remained unworked, owing to the expenses of bringing water on to them being too great for any independent digger. We obtained several good prospects with the dish. There is sufficient water on the farms for all the requirements of a 20 stamp battery driven by steam-power. There is also a large head of water at a high level on an adjoining farm which if brought on would give sufficient driving power for a large battery. The intention of the old company was to utilise this head of water; the estimated cost was 3000l. The farm is well wooded and also the adjoining farms, we believe there is sufficient firewood to run a 20 stamp battery for two or three years. Blue gum trees might be planted to advantage; the wood makes good fuel. In five years these trees grow to a height (from the seed) of from 50 to 70 ft. At Eersteling the climate is good and healthy." In another report referring to the same subject, dated a month previously—namely, the 30th September—they say that "for an outlay of 3000l. the farm, properly managed will turn out a good paying concern." So much for the Farm Eersteling. It would be a satisfaction to the shareholders to know that that farm was their own property, and, as he had said, the directors were awaiting the arrival of the telegram to notify that it had been registered in the name of the company to pay the 1500l., and then the farm would become absolutely the property of the company. (Cheers.) He would next proceed to refer to the 42 farms which they bought of Mr. Mear. Most of the shareholders would remember that although the old Balkis had paid for those farms, and had caused them to be registered, yet the transfer had not been completed, because the company did not possess the title—because the sum of 1200l. had not been paid. The directors had now paid that 1200l., and had in the offices of the company the whole of the title deeds of the 42 farms, which were now absolutely the property of the company. (Cheers.) On these farms there was a mortgage of 17,200l., and no further incumbrance whatever. He would next refer to the Farm Graskop. With that farm the name of the Balkis Company had always been associated. The directors had always hoped, and hoped still, to derive from Graskop their principal income. As soon, therefore, as the directors by completing the allotment, were able to turn their attention to the subject, they used their best efforts to obtain possession of that part of the Farm Graskop which was known to be absolutely gold bearing, and parts of which were ready for working. The directors put themselves in communication with the solicitor in London, who held the power of attorney of Hollard and Keet, from whom the farm was originally purchased, who had been authorised as solicitors to the company to get it registered in the name of the company, but who had failed to carry out those instructions. The directors, as he had said, had put themselves in communication with that gentleman, and requested him to come to a complete understanding with the board on that subject. He was bound

to tell them that that gentleman, Mr. Parker, met the directors very fairly indeed, and the directors entered into a binding agreement with him by which he promised in the name of Hollard and Keet to have the diggers removed from the farm, and have the reef made free to the company's agents in South Africa. The directors had hoped that that result would have been obtained before the present meeting; but whilst Mr. Parker was still as willing as ever to carry out his contract, certain obstacles had arisen which they had not been able to overcome. Thus the company had not yet obtained possession of the company's reef; at the same time the diggers had been informed that they would have to evacuate that property, and the company's agent had written that steps had been taken to force them to evacuate; and the agent went further, and said he believed there would be no difficulty on the part of the diggers in evacuating that property, and that they would evacuate it peaceably, and would have their remedy, such as they might have, against Hollard and Keet. It would be in the collection of the shareholders who were now present that the old Balkis Company paid 6000l. to Hollard and Keet for the specific purpose of making over that property to this company, and paying out the diggers. It had become clearer to the directors of the present company than it was to the directors in the old Balkis Company that unless Hollard and Keet performed that agreement the company would have a remedy against them for the full return of the 6000l.; and although to avoid that payment, and escape the responsibility, Hollard and Keet had dissolved partnership, Hollard taking the bones of the concern and Keet all the meat, and Hollard saying—"You can proceed against me—you cannot touch Keet," yet the directors had evidence before them, and were advised that they could sue both those gentlemen, and that they could obtain from Keet that which Hollard was unable to pay. (Hear, hear.) It was gratifying to the shareholders to know that that was the situation, and that they could recover the 6000l. if Hollard and Keet showed any hesitation in carrying out the contract. But there was more than this; the recent decision with regard to the Farm Spitzkop had laid it down that the diggers had no right to remain on land from which the Transvaal Government had given them notice to quit. Such notice was given to the diggers on the Farm Graskop, and it was certain that as soon as the applications were forwarded to the Transvaal the company were certain to obtain possession of the property, which would, he was sure, fulfil their highest anticipations. (Hear, hear.) He would tell them what the board proposed to do with those large properties. The properties, as he had said, were three in number, and he had just told them in what position they stood with regard to the company, who were the owners. It was quite impossible that one board of directors could efficiently manage such an enormous property, and such a large acreage, separated as the farms were from one another by considerable spaces. Therefore, the directors had laid down the principle that the Balkis Consolidated Company was to be a parent company, receiving its revenue from the working of all these farms. (Hear, hear.) The directors had made a contract with a sub-company for working the Graskop, or rather had underlet a portion; and whilst the sub-company would bear all the expenses the parent company would receive a revenue of two-fifths of the capital—that was, the Balkis Company would have a share of 40,000l. in a capital of 100,000l. as soon as that sub-company was got to work. The directors proposed to proceed in the same manner with the Farm Eersteling; a sub-company would be formed for the working of that farm, by which the Balkis Consolidated would hold 40,000l. out of 100,000l.; therefore, any profit which might accrue from the working of that farm, the Balkis Consolidated would receive two-fifths. Then there remained the 42 farms, and the directors proposed that those farms should be dealt with in a similar manner. (Hear, hear.) He did not think it possible to calculate the enormous advantage which would arise from this system of working. The directors had received an intimation from a gentleman who was a perfect stranger to them to the effect that a young engineer, travelling in South Africa, in the region of one of Mear's farms, found a reef of enormous richness running through one of those farms and through the adjoining country. The directors would prospect those farms, and if they prospected according to their richness and their character, and with every possibility of development, the directors proposed to form sub-companies on each. (Hear, hear.) Many of them, no doubt, were gold-bearing; certainly they had the best reason to believe, at the present moment, that one of them at least was; and there could be very little doubt in their minds that at least one-third of them would prove to be so, and those which were not so could be developed for agricultural purposes; and when they looked to the uses to which an agricultural farm in a rich and healthy country like South Africa might be put, for the purpose of cattle ranching and other purposes of that description, they could imagine that from one source or another the company would be certain of a very large revenue. (Cheers.) As soon as they had got the farm Eersteling in the hands of a mining company the directors would proceed to deal with the 42 farms according to the purpose which the natural productive powers of each might suggest, and they proposed to proceed on the same principle—that each sub-company should, for the transfer of a farm, receive the Balkis Consolidated on its books to the extent of two-fifths of the capital. The Balkis Consolidated would be the superintending company, receiving 40 per cent. of the capital of each. (Hear, hear.) He had put before them the purpose of the directors, the hopes they entertained, and the policy which they proposed to pursue. He believed there was a splendid future in store for the Balkis Consolidated Company, and he could only say that in the future, as in the past, the best efforts of the board would be directed to carrying out the policy he had indicated. (Cheers.) In conclusion, the Chairman said he should be happy to answer any questions.

Mr. MASON enquired when the diggers were to leave the reef.

The CHAIRMAN said the agent reported the notice to them at once. The notice was given in October.

A SHAREHOLDER thought that, instead of sub-letting the farms, it would be better for the company to work them and get the gold themselves. He believed, if this were done, the shares would go up to 4l. or 5l. a-piece.

The CHAIRMAN said that for the reasons he had explained the directors believed the policy of letting the farms would result most to the benefit of this company. (Hear, hear.)

Mr. JOHN OGLE expressed his approval of the plan which the directors proposed to follow, and considered that the directors were fully entitled to the confidence of the shareholders.

In reply to a SHAREHOLDER, the CHAIRMAN said that the board proposed to hold the shares of the sub-companies and derive the profit from them. At any rate, they would not be sold without the consent of the shareholders of the Balkis Consolidated.

Mr. SHERIDAN also expressed his approval of sub-companies to work the farms.

After some further conversation, Mr. JOHN OGLE proposed a vote of thanks to the Chairman and directors, which was seconded by Mr. JOHN WALKER, and carried, and the CHAIRMAN having acknowledged the compliment, the meeting broke up.

VENTONWYN TIN MINING COMPANY (Limited).—Upon terms of an agreement of the 23rd ult., this company proposes to purchase from Mr. John G. Spear, of Callington, Cornwall, certain leasehold land and premises, forming part of the estate of Ventonwyn, parish of St. Stephen-in-Branwell, Cornwall, for the purpose of mining for tin, copper, lead, and iron ores, &c. The company was registered on the 11th inst. with a capital of 15,000l., in 15 shares. The purchase consideration is 5000 fully-paid-up shares, 48l. cash out of the first money, being the amount of two months' cost of the mine up to October 10 last, and 1334l. out of the first returns of the sale of tin ore. The subscribers are—G. Hawke, Callington, farmer; T. Reed Hicks, Callington, farmer; J. Peter, Callington, solicitor; G. Spear, Callington, auctioneer; G. Long, Calstock; J. Kemm, Callington; and Henry Bennett, M.E., Callington. The number of directors is not to be less than three nor more than five; qualification, 100 shares. The first are Messrs. J. Peter; John Bennett, Waddon, Surrey; and H. Walter Wheeler, 49, Cannon-street. Minimum remuneration 150l. per annum.



### THE NEW HOOVER HILL GOLD MINING COMPANY (LIMITED).

The ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday.—Mr. GEORGE HOPKINS presiding. Mr. JAMES FRASER (the secretary) read the notice calling the meeting, the report being taken as read.

The CHAIRMAN said: Gentlemen, this is the first year of the New Hoover Hill Gold Mining Company. As the assets of the old company were taken over as from the 30th September, 1884, after returning to the shareholders 2s. 6d. per share of the capital, amounting to 15,000l., the year's work, I think you will consider to be satisfactory. (Hear, hear.) We have crushed 7075 tons of ore, producing 4571 ozs. of gold, of the net value of 15,071l. 10s. 9d. The mining expenses during the year had been as nearly as possible one half of that amount, that is, 50 per cent., the exact amount being 7482l. 9s. 11d., and after taking into account the expenditure in London, the net profit for the year is 6698l. 6s. 2d. This is sufficient for us to recommend to you the distribution of a dividend of 10 per cent. per annum, carrying forward to the next year the sum of 698l. 6s. 2d. The liquidation, as you will notice from the report, is not quite completed, that is, the liquidation of the old company, there being still 445 shares in the hands of the liquidators for which no application has yet been made. The fact is shareholders are very often negligent about giving notices of their changes of address, and although repeated notices have been sent to the registered holders of those shares the letters are always returned through the post. The liquidator has made enquiries in every direction to find out those shareholders with the view of completely closing the liquidation, and from time to time he keeps reducing the number, but there are still 445 shares of which we cannot find the owners. You will see that we have set aside for the expenses of the liquidator 4000l., and this I think will be ample. Reverting to the work at the mine you will see from the report that the mill has now been running steadily for a year and nine months—in fact, longer than that—that is to say, it has been running steadily from the date of the last accounts which were submitted to you. During the nine months which belonged, strictly speaking, to the old company we sold 4946l. worth of bullion, which went in reduction of the expenditure in opening up and developing the mine, so that, including the expenses both at the mine and in London, the total expense for these nine months was only 1695l. For the 12 months with which we are more immediately dealing to day you will see that the output has steadily increased, and that, as I mentioned before, the total for the year is 15,071l. Since these reports were published we had one bad month—that is, returned for the month of October—when, in consequence of our coming across some courses of greenstone, the output for the month was not so good as the average. The Chairman then went on to say that, speaking from memory, he thought it fell between 6000l. and 7000l., which was only about enough to pay their expenses. He often thought that it was not altogether an advantage to publish the output of a mine every month, although he knew shareholders were very anxious that it should be done, for if in 11 months they had good returns and one bad one the shareholders or intending shareholders were liable to take fright, and their property was much depreciated in the market in consequence of that one bad return. Now the return for October was one that there were sufficient reasons for, such reasons as one must always expect to meet with in mining, and they could not go on with as much regularity as they could wish, for there must occasionally be bitter disappointments. The following month—that for November—the output had increased very considerably. (Applause.) The output for the month being between 11000l. and 12000l. He did not know whether any of the gentlemen had ever seen a bar of gold or if they had any idea of what it was like; but the very bar of gold of which he had been speaking as the result of their working for the month of November had arrived that morning, and he thought they could not do better than have it at the meeting and hand it round. (A VOICE: What is it worth?) It was worth between 11000l. and 12000l., and seeing that it is dark weather and times are bad, he hoped when the bar was passed round it would go back to the table. (Laughter.) (A VOICE: Is there any silver in it?) Yes, there was a quantity of silver in all their bullion—not a large quantity; their gold and silver realised generally about 3l. 7s. per ounce. If it were all gold it would realise about 3l. 17s. 10d., that being the standard price. They had not thought it necessary in the report to go into detail about the mine, because as it was their practice to send them extracts from Mr. Frecheville's letters, which was the source from which they had to draw the report they thought it better for those of the shareholders who take sufficient interest in it to wade through those letters, and he was sure it would repay them for the time to know the progress that was being made, not only from month to month, but in the intermediate weeks. He knew they were a little difficult to understand without a plan and section. They had a section of the Gallimore part of the mine, which was sent over to them every month, showing the progress made, and they had written out to have a section also of the Hawkins part. One gentleman had written to him a few weeks ago suggesting that they should send out with the reports a better section showing these workings, so that the shareholders should be able to understand these reports. He thought that a very good idea, and they would see if they could not do it another year on a little smaller scale. It would help persons to understand Mr. Frecheville's letters. He had an opportunity a few days back of conversing with a gentleman who had just returned from North Carolina, and who had paid a visit to their property at Hoover Hill, and he was very pleased to hear from him because he was an independent witness that all their mining and all their mining works were undoubtedly managed exceedingly well. He said he thought they had in Mr. Frecheville a very excellent manager, everything was in beautiful order at the works, and he spoke very well indeed of their mill and machinery. He said it was an establishment that they might be proud of. He (the Chairman) was pleased to hear that, because they had spent a good deal of money on it, and it was satisfactory to hear that in exchange for money they had got a good article, and it was gratifying to hear Mr. Frecheville's ability so highly spoken of. They never doubted it, but still, coming from independent testimony, it was satisfactory to hear a confirmation of their own opinion. (Applause.) He would be pleased to answer any questions or give any information to any shareholder as far as lay in his power. He thought all he would say at that moment was that if they passed the next resolution—(laughter)—which he had very little doubt they would do, their dividend warrants would all be posted that night, for they had been prepared in anticipation, they would be able to receive the dividends next day. (Hear, hear.) Looking at the whole position, that in which the mine was at the present time, well opened up, with a considerable quantity of ore in sight, because under the expenditure he had alluded to at the outset as being 50 per cent. gross output that included a large amount of money spent in the development of the property. (Hear, hear.) He thought they might reasonably expect that this company would for some considerable time take its place among the dividend-paying mines, and will, he hoped, at all events, give them a fair return for the money they had spent on it. He begged to move the reception and adoption of the report and accounts. (Applause.)—Mr. C. W. STRONGE, C.B., seconded the resolution.

Mr. APPLETON thought the report for the past year the most satisfactory one the shareholders had ever received, and certainly very much more satisfactory and favourable than the most sanguine of the shareholders expected this time last year—(applause)—when they met in the offices of the company, he was going to say, with a view to saving their own capital. (Applause.) On that occasion they would remember he ventured, and he believed he expressed the unanimous feeling of the shareholders—he ventured to express the disappointment they then felt at the position to which the mismanagement of Mr. Remfry had brought the affairs of the company. He thought that their position to-day fully justified the language he then used, especially towards Mr. Bauerman, whose gross mismanagement or rather misrepresentation of the character of the mines misled the board to give for it twice if not three times what its value was. He did not want to go into what he called "ancient history."

He did not want to reopen the past, but he did not want to withdraw anything that he said last year, but he would say that he did not believe it would be wise for the company or the board to enter into any proceedings of any character whatsoever against Mr. Bauerman for the misrepresentation which he made to this company two or three years ago. Their duty was rather with the present and with the future. (Applause.) And he thought, considering what he said last year, and what was perhaps rather strongly expressed, and very justly felt by the board, the least he could do to-day was to rise first to congratulate the board, and especially the Chairman of the company, for the very favourable position in which they now found themselves. He most heartily and cordially joined in all that had been said of Mr. Frecheville, for he considered that it was to his energy, capacity, and above all his faithful discharge of the duties of the onerous post he holds, that they should attribute their favourable position and their prospects for the future. (Applause.) It was with that object that he rose at that early stage of the proceedings to congratulate the board and Mr. Frecheville, and if a message could reach him he should like to wish him a happy Christmas and a bright and prosperous New Year. (Applause.)

Mr. PARKER YOUNG thought there could only be one feeling with regard to the way in which the board had managed the affairs of the mine. It was a happy thought to bring the bar of gold to the meeting to show that there was really gold in the mine. (Laughter.) Some of the shareholders would remember it was said that there was no mine, and no gold. As to the 445 shares which had not been applied for, he would suggest that if not actually applied for they should in the end be sold for the benefit of the company if it could be legally done. He would like to know whether there was any idea of employing additional stamps?

Mr. DE MATTOIS wished to know if the working expenses could be reduced? In asking this he did not wish to say a word against the management of Mr. Frecheville.

A SHAREHOLDER enquired whether half-yearly meetings could not be held instead of annual meetings? The company seemed to be getting on so well that the shareholders would like to meet the directors oftener than once a year.

The CHAIRMAN said they were very much obliged to Mr. Appleton. He knew he spoke warmly at the last meeting, but he had no doubt he spoke what he felt, and he thought he had very good reason for feeling it, as he did. They wrote out a short time ago to Mr. Frecheville, enquiring whether the time had not arrived when we should put up some additional stamps, for they had always had it in view that as the mine was opening out they ought to increase their output. He wrote back to say that he thought it would be well to let the matter stay over a little before they come to a decision about it. As regards the expenses referred to by Mr. De Mattois, of course, the amount of percentage on the capital was neither one thing or the other. They might have a very large capital on a mine, or a small capital; the real test was what was the working expenditure with reference to the output. (Hear, hear.) Now, where they had a property like theirs that only a year or two ago was so doubtful, where they had to spend money to open it, and where so much was charged to revenue, he did not think 50 per cent. working expenses was excessive. (Applause.) Of course, they should be very glad, and so would Mr. Frecheville, if they could see the way to reduce them, but he had no doubt they were working now as close as they possibly could. It was quite true that a year ago he spoke of the expenses being about 6000l. per mensem, but they now always send him 7000l. every month, because so long as he was returning to them 11000l. or 12000l. of gold monthly they told him that they did not mind his spending 7000l. instead of 6000l., in order to further open out the mine, and see what there is in it. (Applause.) He thought they might reasonably hope in future that the working expenses would be somewhat reduced. With reference to the question of what they were to do with the remainder of the shares, he was sorry that their solicitor by an inadvertence was not there, but that was a matter which would have to be carefully considered and dealt with legally. Having no wish to take even the slightest advantage of any of their shareholders, they had wished to give them every facility if they could find them at all, because there was a cheque waiting for each of them, and the shareholders in this new company, and there would, of course, be accumulated dividends, he believed in most of these cases the shareholders were dead, and they could not find their representatives. But they do drop in from time to time, and only that day they had a transfer brought in signed two or three years ago, which would give them the clue to another 100 of these shares. They were not incurring any additional expense by keeping the liquidation open, and they were anxious to give every shareholder an opportunity of getting what belonged to him. But in spite of all their efforts, no doubt there would be a surplus of shares some time or other, to be dealt with in the way proposed by the honourable proprietor, or in some other way. It was a small amount of money, either 445l. on the old capital, or 222l. 10s. on the new, and the question would have to be considered and dealt with in a legal manner.

The CHAIRMAN then put the resolution for the adoption of the report and accounts, which was carried unanimously.

The CHAIRMAN then said that in regard to the question of holding half-yearly meetings, that the Articles of Agreement had been framed for the holding of annual meetings, only with power to the board to pay intermediate dividends. He wished they had the power of declaring dividends as and when they liked, because the mine was so far off that there necessarily was delay in getting the accounts, which had to be entered in the books and audited. Although, therefore, the accounts now adopted were up to the end of September it would be the end of December before the dividend could be paid. The next resolution he had to propose was:—"That a dividend of 9d. per share be now declared, making with the interim dividend paid in May last, a total dividend of 10 per cent. free of income tax for the year ending 30th September, 1885, and that such dividend be payable on and after the 23rd inst." He said that there was an item in the accounts for printing, stationery, income tax, &c., 367l. This included 200l. income tax for this year's dividend, so that in reality the balance carried forward to next year's account was 837l.—Mr. GEORGE RICHARDSON seconded the motion.

Mr. S. POPE, Q.C., thought that out of the 698l. proposed to be carried forward the shareholders should allow themselves the gratification of asking the Chairman to accept a cheque for 200 guineas, in acknowledgment of his valuable and unusual services. Many were aware that the company had been an object of the attention of company wreckers. Had it not been for the sacrifices of time and money made by the Chairman, the shareholders would in all probability have received no dividend. At immense personal sacrifice the Chairman had stood by the company, and had also put his hand in his pocket, advancing money which the company had fortunately been able to repay, although the shareholders had never been able to make an acknowledgment. He would, therefore, ask the meeting to show their gratitude to Mr. Hopkins by voting him 200 guineas out of the sum now to be carried forward.—This was seconded by Mr. DE MATTOIS, who proposed that Mr. Frecheville's services should also be recognised.

The suggestion was supported by Mr. Appleton and others.

The CHAIRMAN thanked the meeting for their appreciation of his services. He had spent a large amount of time in defending the company's interests, when desperate efforts were being made by the wreckers to gain possession of the 30,000l. then at the bank. It was a great satisfaction to know that his efforts had met with the approbation of the shareholders, which he appreciated more than any money payment. (Applause.)

The resolution for the dividend was then put, and carried.

On the motion of Mr. POPE it was then agreed unanimously to vote the sum of 200 guineas to the Chairman and 100 guineas to Mr. Frecheville.

The auditors, Messrs. Turquand, Youngs, and Co., were re-elected, and the meeting closed with the customary vote of thanks.

The amount received for gold by Wassau (Gold Coast) Mining Company (Limited), the produce of crushings in the month of October, is 549l. 5s. 6d.

### WHEAL GRENVILLE MINING COMPANY.

The four-monthly meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Wednesday,

Mr. R. W. GOULD in the chair.

Mr. D. JULYAN (the secretary) read the notice calling the meeting. The minutes of the last meeting of the committee were read, which contained particulars regarding the renewal of the leases of the sett, which the shareholders would be asked to confirm.

The CHAIRMAN said the accounts had been in the hands of the shareholders for rather a shorter time than usual, for the reason that the accounts had been brought up very close indeed to the date of the meeting. It was a very pleasant duty to propose that the report and accounts be received and adopted. At last meeting he explained the different points of operation, together with their value, somewhat in detail; to-day, as they had other extraneous matter to deal with, he did not propose to go over that ground again, except that he should be obliged to make one or two observations with regard to the workings when he came to Capt. Hodge's report. On that occasion he endeavoured to prove to them that, as regarded the costs of raising the ores, that, as regarded the proportion of the gross returns which they retained as profit, and that as regarded the net profit per ton kept by the company on the working of the mine, there were only two mines on the list paying their way in Cornwall which could beat Wheal Grenville; as regarded the yield per cent., which the return gave, there was only one mine in Cornwall doing better than this; and as regarded the financial position there was not one mine in Cornwall which came near Wheal Grenville. In this respect Wheal Grenville was absolutely at the top of the tree. He would show them by figures that the position was in no way changed for the worse, but, on the other hand, a not inconsiderable improvement had been observable. At the last meeting they had 3280l. available in hand, and now they had 4751l. At that time they were enabled to give a dividend of 7s. 6d. in the 1l., and to put by to reserve 403l. 4s.; to-day the directors were in a position to recommend them to divide 25 per cent. more than that, and to lay by nearly twice as much as they laid by out of the profits of the previous quarter. (Hear, hear.) He would make a brief comparison between what the position of the company was at the commencement of the year, and what it was now; then the shareholders would get a more just view of the really remarkable progress which had been made during the year than if he took them underground and showed them the value of the ends. They commenced the year with a balance of 1277l. in round figures, out of which a dividend was paid of 750l., which left them with a sum of 527l. to the reserve. They found themselves now, at the end of the year, with a balance of 4751l. in hand, out of which it was proposed to declare a dividend of 10s. per share, which would leave a sum of 1751l. in hand to begin the year with, as against 527l. That did not represent all the progress made in the year, because during the year they had divided dividends of 2s. 6d., 5s., and 7s. 6d. per share, and now, as he had said, it was proposed to divide a further 10s. per share. The reserve was now nearly 2000l., and that was not represented by tin in levels or on the dressing-floors, but consisted wholly and simply of cash in the hands of the bankers, every shilling of which might be divided to-day; but the prudence of such division he might have something to say presently. The sales during the year had been equally remarkable and satisfactory. During 1884 they had sold 448 tons of tin, and during the present year they had sold 608 tons, being an increase of 160 tons during the year. The average monthly sales, which during the last quarter of 1884 had risen to 35 tons per month, dropped during the first quarter of this year to an average of 35 tons per month; but since that time, and during the last nine months of the year, they had continually increased, until at the present moment they amounted to 50 tons per month. (Hear, hear.) During 1884 the gross amount received for the tin was 21,475l., and during the present year they had received for tin 30,406l., being an increase of close upon 9000l. in the year. The increase of net profits had fully kept pace with the increased return of tin. Spread over the year 1884, the profits, one quarter with the other, were 5l. 6s. 10d. per ton; during the first quarter of the present year they were 5l. 2s. 9d. per ton, in the second quarter 7l. 11s. 2d., and during the last half-year the profits had been 19l. per ton. The total net profits were 729l. in the first quarter, in the second 1620l., in the third 2653l., and during the past quarter they had been 3720l. To sum up the figures, the reserve fund had increased by 250 per cent.; the sales had increased by 40 per cent., the gross receipts for tin by 42 per cent., and the net profits per ton of tin sold by 220 per cent. (Cheers.) It would be interesting to show where the great increase came from. In the first place, the sale of 160 tons of tin extra would account for a part of it. During the year they had received an average of 2l. 10s. more for tin than in the previous year. Another part of the increase was due to the persevering vigilance and sound economy exercised at the mine by Capt. Hodge. He could not prove this more strongly than by pointing out that in 1884 the cost per ton for producing tin was about 41l., and during the present year it had been 39l. 6s. 8d. in the first quarter; it was 35l. 6s. 4d. in the second quarter, 34l. 7s. 4d. in the third quarter, and 34l. 2s. in the last quarter. Turning to Capt. Hodge's report, he said that this strikingly bore out the great improvement which had taken place in the mine. In his last report it was a noticeable feature that the total aggregate value of all the points in operation at the mine came up to about 498l., but in the present report the aggregate value came out somewhere over 600l., which fully proved that the mine itself had much improved. (Hear, hear.) A satisfactory feature, too, of that was that the improvement had come, not from one single point, not from any sensational discovery, but from an increase in the value of nearly every point. This was much more satisfactory than if they had made a grand discovery in any one single point in the mine. (Hear, hear.) With respect to the quarter's accounts, they commenced with a balance of 3280l., out of which dividends had been declared which absorbed 2250l., leaving in reserve 1030l. During the four months the sum received for tin (with 30l. 18s. for carriage) amounted to 10,516l., which, added to the sum in reserve before, amounted to 11,546l. The outlay during the quarter had been, as would be seen by the items given in the accounts, a total of 6795l., leaving a balance of 4751l. 8s. 11d. upon the quarter's working. A property which could show such results as that could be called nothing but a splendid property, and this property was secured to the company for at least 21 years from September 29 last, through the courtesy of the lord's agent, Mr. Pease. The leases had all been agreed upon, and the counterpart signed, and the first quarter's altered dues under the terms of the new lease had been provided for in the statement of accounts now before the meeting. The shareholders would agree with him that they had abundant cause for satisfaction with respect to the terms of the lease. Under the old leases the company was bound to pay the lords 1-18th of the produce, as royalty or dues. During the period of great depression, when tin was selling below 40l. per ton, which left the company nothing but loss, the directors had to ask for many calls, and the outlay was enormous, and the income very small, and at that time the old lord reduced the dues from 1-18th to 1-30th, and that was continued to the end of his life, and was also continued by his successor to the end of the company's lease. Of course the directors never thought that such a low rate would be continued when the company got into a more prosperous condition, and the royalty in the new lease had now been fixed at 1-24th. The shareholders could not reasonably expect less, and the thanks of the shareholders were due to the lord, and the lease, unlike what had taken place in a neighbouring mine, had been renewed without the payment of any premium by the company. There was no doubt that in Wheal Grenville the shareholders possessed a big thing, which it would take generations to work, if fairly and fully developed. The sett was over 600 fms. in length; they had driven on the Great Flat lode for over 500 fms. east and west, and were in a position to say they had proved that that Great Flat lode ran through the whole sett, which was  $\frac{3}{4}$  of a mile long. They had sunk 200 fms. in depth, and had driven east and west on the different points below, and had thus proved that that big Flat lode ran through the whole property. At a certain



price per ton of tin, the bulk of that lode would be brought away at a profit. They were not dependent upon occasional discoveries of pipes of tin; but they had the rich lode permeating all through with tin in a certain proportion. They were warranted in assuming that the lode held down, and if they were to sink on the lean of the run of the lode they would find themselves 800 fms. in depth before they got to the southern boundary of the property. Suppose the lode were only 6 ft. wide—whereas really it was 18 ft.—and supposing that every cubic fathom of it should yield 10 tons of stuff, which was a very low calculation; they were already 200 fms. in depth, and had driven on the lode 500 or 600 fathoms, and they had already got the enormous quantity of 50,000 fms. gettable ground; but if they took the whole lode there were half a million of fathoms in the whole property; the present shareholders would never work it to that depth, but if they calculated that it would give 10 tons per cubic fathom there would be 4,000,000 of cubic fathoms of lode in the property. (Hear, hear.) At the rate of 3000 tons a month that would take 120 years to get away. That was not all. It was believed there were four distinct lodes besides the Great Flat lode. If they had done so well at the present time they might expect to do better by-and-by. He should like to see levels driven north and south, at any given depth which might be considered judicious, right through the whole property, so as to intersect every branch and lode, but that was an outlay which he did not recommend them to incur for some time to come. He should like to see the shaft in the western part sunk to the same depth as Gould's shaft in the eastern part, and then levels driven between the two; then they would have the biggest and grandest mine in the country. His advice to the shareholders was not to part with their shares; he believed the property would be bigger and far better than at the present moment. He moved the adoption of the report and accounts.

Mr. WILLIAM BELLINGHAM seconded the motion, which was carried.

On the motion of the CHAIRMAN, seconded by R. JOLLY, a dividend of 10s. per share was then declared.

The CHAIRMAN moved a cordial vote of thanks to the lord, Colonel Fortescue, for the liberal terms on which he had granted the new lease.

Mr. G. F. LEAKE seconded the motion, which was carried.

The CHAIRMAN proposed a vote of thanks to Mr. Lane and Captain Hodge, who had acted as trustees in the matter of the lease.

Mr. F. G. SLOUS seconded the motion, which was carried.

Mr. LANE, in acknowledging the vote, said that when the present company took the property from the old company it was simply Wheal Grenville. On East Grenville 30,000 had been spent, but the depth attained by the old company was not sufficient to intersect this great lode. South Grenville was also being worked by a company, but they also after developing the mine to a great extent did not go deep enough to get the riches they expected. He thought the shareholders were hardly aware of the great value which they had in South Grenville only. By driving a cross-cut south about 80 fms. from the present bottom level, they would intersect four lodes, and he believed that by sinking the shaft another 20 fms. they would intersect East Grenville lode, which had returned a large amount of copper ore, and which he believed would make tin in depth. Continuing the cross-cut from the 220 fms., they would not have a great distance to drive to intersect two or more lodes which were known to exist, and known to be payable lodes. If they bore these facts in mind they would be able to see what great value they had in Wheal Grenville. They had leases on favourable terms, and everything was going on in their favour, and he believed the company had a great future before it. He believed the best interests of the mine were served by Capt. Hodge. (Hear, hear.)

On the motion of the CHAIRMAN, seconded by Mr. BUMPUS, a resolution was passed that the leases be kept in the office at present in charge of the committee, along with deed of trust to be executed by the trustees.

On the motion of the CHAIRMAN, seconded by Mr. LEAKE, a cordial vote of thanks was passed to Capt. Hodge and the agents.

Mr. BUMPUS proposed, and Mr. JOLLY seconded, a vote of thanks to the Chairman and directors, which was carried, and the proceedings terminated.

#### WEST GODOLPHIN MINE.

A four-monthly meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Wednesday, Mr. F. G. LANE in the chair.

Mr. D. JULIAN (the secretary) read the notice calling the meeting.

The CHAIRMAN said he would point out the favourable position in which the company now stood. They brought from the last account a balance of 1137. 13s. 11d., and during the 16 weeks over which the accounts now extended they had sold 31 tons odd of tin, which, allowing for carriage, would amount to 1726d. That was a very satisfactory amount. The costs incurred in obtaining that tin amounted to 1730d., showing a loss on the four months of a little over 4d. Taking credit for 447. 7s. 6d. profit on sale of forfeited shares, at which it stood at last meeting, their credit balance had been entrenched upon to the extent of 367. 16s. 6d., after providing for lords' dues and London expenses, so that they now stood in the position of having a balance of 777. 17s. 1d. in favour of the company. During the 16 weeks they had continued their labour in pushing on the ends in a miner-like and energetic manner, and opening up the bottom levels. Not one stop had been put in to take away any portion of the ground. All the charges in connection with the development work had been charged and paid for in the accounts now submitted. Referring to the agents' report, he said that in Bellingham's lode, on the 92 fathom level, they had extended 24½ fathoms towards the winze, which was going down from the 80 fathom level, and in which he believed there was a very good lode of tin. This course of tin could not be worked upon from the 92, because the winze was full of water; but he hoped in a few days the water would be drawn off, and they would be able to operate upon the tin which had been laid open by the sinking of this winze. That was a point of very great importance, as they had no levels above this of any extent, and should this turn out as they calculated there would a large quantity of reserve ground to be taken away during the forthcoming quarter. On the counter lode they had driven in the 92 north-west for some distance, and there also they had laid open a good quantity of ground, and also in the 92 west, on the Pink lode. Both of those points were objects of very great importance, as it proved that the tin ground held down, and had been particularly fine during the past four months between the 80 and 90. The agent, in his report, said distinctly that from the excellent appearance of the bottom levels he strongly advised them to continue to sink the shaft, and that the tin now going down gave them every reason to believe that it would exist to a much richer extent, and that they would be able to work it to better advantage than at the 92. It had been proved by the sales during past year, as compared with the previous year, that the following were the results:—In 1884 they sold 67½ tons odd of tin, which realised 3357. 7s. 4d., at a cost of 5242. 18s. 5d., leaving a loss of 1885. 11s. during that year. During the past year they had sold over 93 tons, which realised 4886. 13s. 2d., at a cost of 5423. 18s. 2d., leaving a loss, which was provided for by the call made last March, of 537. 5s. So the loss during the past year had been 1347. 1s. less than in 1884, and yet the development of the mine had been carried on as rapidly, and in a miner-like manner as it was possible. (Hear, hear.)

Captain Hodge stated in his report that the dressing-floors had been considerably extended during the past quarter, with every liability charged. The improvement in the dressing-floors had been very great, and the result in the dressing of the tin ore had been a saving of just 17. per ton. In 1884 the dressing cost averaged 51. 13s. 7d., whilst the cost for the present year had been 21. 13s. 9d., which was a saving of just upon 12. per ton. A great deal of this had been effected by improvements made by Capt. Hodge in what he might call a scientific manner, as he had adopted a principle which was not adopted in any other mine that he was aware of. After the tinstuff left the stamps it

entered a classifier, and by that means it was cleansed; and that effected a very great saving in the dressing cost. Credit was due to Capt. Hodge for giving the company the benefit of his ability in that respect. (Hear, hear.) The directors had unabated confidence in this mine becoming a very productive mine, and one which would well pay the shareholders for continuing to a greater depth with the operations. (Hear, hear.) In conclusion, the Chairman moved the adoption of the report and accounts.—Mr. LEAKE seconded the motion, which was put and carried.

The CHAIRMAN said that, as regarded finance, they could continue as they were now without making a call, but it was necessary that the mine should be seen at a greater depth than they were now working. The shareholders must, therefore, decide what call shall be made.

A short conversation ensued on this point, and eventually it was decided to make a call of 2s. per share. It was pointed out that this would put the company in a strong financial position, and obviate the necessity of a call at the next meeting. The call will be made payable on the 13th of January.

A vote of thanks was then passed to the Chairman and directors, and the proceedings terminated.

### Mining Correspondence.

#### BRITISH MINES.

**BEDFORD UNITED.**—H. Trezise, December 22: On the north lode we have four men raising and stopping in the back of the 138 east where the lode is 3 ft. wide and worth 72. per fathom.—McCallan's Shaft, Bridge Lode: In the 90 west no lode has been taken down for some time, the drainage being by the side of the lode to secure progress. In the same level east the lode is a good size, composed principally of cubic mounds and some small veins. The lode is still discovered by the cross-course. In the 62 east the lode is 4 ft., producing saving work for ore and muddle. The stopes in the bottom of the 62 are worth 77. per fathom; three stopes in the back of the same level are worth 52. per fathom each. The lode in the 62 west is composed of capel spar mixed, with some rich black oxide of ore. The pitches throughout the mine continue to yield ore and muddle in paying quantities.

**DERESBY.**—John Roberts, William Sandoe, December 22: The Gorse shaft is now down about 9 fms. below the 6 ft. level. We are carrying but little of the lode in the sinking, so we cannot at present say much about it. The lode in the end, driving from the sump on the hanging side, still looks quite equal to anything we have reported it, and is opening a splendid piece of leadground, there is now every prospect of its continuing towards the Gorse shaft. In driving the No. 6 level we passed through some very nice spar, similar to the matrix of the lode now in the end, and it seems very likely that the lead will continue at least to that part. We have sent off the lead and blende.

**DUCHY PERU.**—R. and J. Nancarrow, December 22: Since reporting on the 8th inst., but little progress has been made at the 80 fathoms level in consequence of changing one of my boiler lags, the middle one. While this was being done the water naturally rose on us; but we are pleased to say the old one is out and the new one in its place, and we are now keeping the water, or rather gaining on it, with two boilers, and we hope by Thursday, 24th inst., to get the third boiler at work, when the water will be soon forked, and operations resumed at the 80 fathom level. About 25 fathoms east of Wallace shaft at the 40 fathom level we have discovered, as far as seen, a good bunch of blende, where nothing had been done for very many years; but having now first come up from underneath we are encouraged to say we believe we have met with the bunch that was lost so many years since. This we shall be able to speak more definitely on in our next. All tribute pitches continue to produce about their regular quantities of mineral, and we are daily engaged dressing the same; we delivered the three parcels sold last week, and shall sample others next week. Surface work is being carried on with every regularity and all machinery is working with satisfaction.

**EAST BLUE HILLS.**—S. Bennetts, W. K. Mitchell, December 22: On Monday night, all going well, we commenced opening out for plat and cutting through lode at the 35. In the 20 east end the lode is without much change during the past week, and continues worth about 54. per fathom. The west end of this level is producing low quality tinstuff. Two stopes in the back of this level are worth respectively 77. and 107. per fathom. A rise in the back of the 10 is worth 72. per fathom.

**ECOTON.**—William Bowman, December 21: Since my previous report fair progress has been made in each section of development work. In Water Bank Mine the sinking is now 25 fathoms below the 45. or 74 fathoms from surface, and the deep cross cut from Clayton adit is advanced 49 fathoms towards the junction. The distance between the two ends is now little more than 5 fathoms, and our miners can hear each other's signals very plainly through the rock. The communication has been an expensive work and has caused much anxiety, so that I shall be very glad when connection is made, and it will open up a very large section of good mining ground, considered by some practical men to be the richest part of our estate. In Clayton Mine we have completed the equipment of the engine shaft to the 150 fathom level, and commenced drawing ore stuff from the deep workings on the 13th inst., sending the wagons direct to the dressing floors. During the equipment of the shaft, and getting into place the bottom lift of pumps, 50 yards in length, we had 14 days' accumulation of water in the bottom levels, which, when the new line of pumps were started was forked (or lifted out to surface) within 30 hours, which shows that the pumping power is well ahead of present requirements. The development works above and below the 140 fathom level have been continued without interruption, which prove the branches of mixed blende and copper ores to be extending in each direction, and we have no prospect of any reduction in rising, sinking, or driving upon them. The main bearing of the branches is nearly north and south, and their dip from west to east. The whole formation is curved in a most remarkable manner, and there appears to be a slight improvement in quality of the ore as depth is attained. Severe frost and snow have retarded surface operations. Dressing has progressed quite as well as could be expected, and I hope to sample a parcel of blende this week.

**GREAT HOLWAY.**—W. T. Harris, December 22: Roskill's Shaft, the 85 North: A slight improvement in the ground for progress, and the beds sharper dip, are about the only changes taken place since last report.—Level Engine Shaft, the 80 East: The lode is regular, and of an improved composition, yielding saving work for blende, with occasional stones of lead. In the 60 east rise back the joint is principally carbonate of lime, in which nice stones of lead are frequently found.—Tribute: The 50 fm. level No. 1 pitch in back is producing 10 cwt. lead and 1½ tons blende per fathom. No. 2 pitch is worth from 1 ton to 2½ tons lead, and 1½ tons blende per fathom. No. 3 pitch is producing 5 cwt. lead and 1 ton blende per fathom; the same applies to No. 4. No. 5 pitch is yielding 10 cwt. lead and 1½ tons blende per fathom. No. 6 pitch is producing 5 cwt. lead and 15 cwt. blende per fathom. No. 7 pitch is yielding 10 cwt. lead and 1 ton blende per fathom. No. 8 pitch is worth 12 cwt. lead and 1 ton blende per fathom. No. 9 pitch is producing 3 cwt. lead and 1 ton blende per fathom.—Brammock Shaft: The 60 level east, No. 1 pitch in back, is yielding 10 cwt. lead and 1½ tons blende per fathom. Our last sale of lead fetched 104. 4s. per ton. A fuller report next week.

**GREAT LAXEY.**—W. H. Rowe, December 22: The lode in the 271 end, driving north of Welsh shaft, is being pushed on by nine men; the appearance is such as to lead us to expect an early improvement. The 235 shaft has evidently reached the footwall part of the "great" slide, in close proximity to which, in the upper levels, the copper ground occurs. The lode for some distance has been small and poor; but about 12 fms. back a branch is going off to the lying side, which we expected at the time was only a temporary bend, and would join the other again in a short distance; but such is not the case, and it may possibly prove to be the strongest part of the lode. The driving is now directed on the course of the slide westward, in which direction the throw, no doubt, takes place, and to intercept the branch just referred to as well. The stopes in the Deep mine have scarcely at all changed in value since last report. The rise in the 200 shaft becoming poor, these men have been removed further south to a short piece of ore in the roof, worth 122. per fathom.—Dumbell's: The 255 end north is in ore again, worth 207. per fathom; the 243 end, 222. per fathom; the joint rise and stopes continues worth 181. per fathom; the 230 end again improved to 307. per fathom; value of stopes in this level much as last reported. On the other side of the slide in the 215 end there is considerable uncertainty, and some further cross cutting will probably be necessary. There is a mere joint at present in the driving. The stopes in the sole has improved to 207. per fathom; the present value of the 209 end is 94. per fathom. Neither the stopes over this level or the winze in 185 have much altered since last reports. The driving northwards upon the east lode in the 85 cross cut shows nothing new so far. We shall be better able to form an opinion about it when further opened upon. The three stopes above this and the 60 level are respectively worth 201., 181., and 254. per fathom. The new winze in 37 is worth 151. per fathom.

**GREAT WEST SHEPHERDS.**—Captain R. J. Nancarrow, December 22: The sinking of the new engine shaft is being pushed on by nine men; the ground in the bottom of the shaft has become harder, and the progress is consequently checked for the time being; but we hope in about a month more to reach the depth contemplated for driving to intersect the different lodes—40 fathoms from surface. In the end being driven west on the middle lode on the 30 fm. level, Brown's shaft, the lode is large, and producing lead and blende, but not sufficient to value at present. The tribute pitch in the back of the 18 is poor at present. All other work is being carried on as fast as circumstances will allow, and the engine is mastering the water satisfactorily.

**GREEN HURTH.**—James Polglase, December 17: The vein in the stopes in back of the bottom level is not quite so wide, consequently not producing so much lead, worth 18 tons per fathom. The 44 fm. level end north is worth 1 ton per fathom. No. 1 stopes, in the back of the 44 fathom level, is worth 1 ton per fathom. No. 2 stopes, in the back of the 44 fathom level, is worth 2½ tons per fathom. We are preparing another stopes in back of the 44 fathom level. The 30 fathom level end north is worth ½ ton per fathom. No. 1 stopes, in the back of middle level, is worth 1½ ton per fathom. No. 2 stopes, in the back of middle level, is worth 1 ton per fathom. No. 3 stopes, in the back of middle level, is worth 2 tons per fathom. The adit level, north of new footway, is poor. We have resumed driving the adit level east. Dressing going on well all the week.

**HARDSHINS.**—Manager, December 18: We got the water out of the shaft on Wednesday, and the men got into the stopes again. They got some very fine bouse during Wednesday and Thursday. The men have been principally engaged with the water race, and they find it a hard cut. There is 7 ft. of blue clay and 1 ft. of hazle to the bottom of the race.

**HEALEYFIELD.**—John Trezise, December 18: The accident to the pumps, referred to in my report of the 17th, has been successfully dealt with, and sinking operations have been resumed to-day. Since we sunk through the slate sills

our water has increased, but we hope the extra feeder will drain off after a few days' pumping. Nos. 1 and 2 stopes in the Grindstone sill are worth in the aggregate 25 cwt. of lead per fathom. I placed part of the shaftmen in the stopes since the accident occurred. The pumping machinery. The tribute bargain in the Smithy level is worth 8 cwt. per fathom. The rise in roof of the north fore end has a very thick appearance; vein 6 ft. wide, composed of gossan, douce, and traces of carbonate of lead intermixed. Washings carried on with all speed during the fine open weather.

**MARKY VALLEY.**—William George, December 23: The ground in the 33 cross-cut north from Bellingham's shaft has slightly improved during the past few days. There is more water issuing from the end, and good progress is being made towards the 1-ft. The different other bargains referred to in our last setting report are without any alteration to notice. The steam pipes for connecting the additional boiler are delivered, and are now being fixed, and this with the other surface works is being urged on as fast as possible.

**MID-DEVON.**—James Neill, December 19: A Shaft: The 93 cross cut south extends 1 by nine men with boring machinery 1 fm. 6 ft. 2 in., making total distance from shaft 12 fms. 3 ft. 9 in. The rock is more porous and yellow so hard, being intermixed with larger branches of garnet, spotted with quartz and arsenical muddle, indicating that we are nearer the lode.—C Shaft: The stopes in back of cross cut, north from 50 east, worked by three men, is without any perceptible change either in yield of ore or in composition of strata. It is still equal to ¼ tons per cubic fathom.

**NEW CARADON.**—N. Richards, Dec. 22: No. 1 lode, in the 60 west, maintains its ore, but is at present somewhat disordered by cross heads and branches, producing a little muddle, but not much copper ore, nor do we expect much improvement until we get through this unsettled ground. There is a branch of muddle running parallel with the cross course in the 30 driving north, which we like to see. Altogether the ground is of a favourable description for the production of copper when the lodes are reached.

**NEW LANGFORD.**—E. Dunstan, December 22: We have put in penthouse above the 10 fm. level in footway shaft, and the men are now clearing up the same below that level. Down 3 fms. the shaft so far is quite firm, the ends of which are not taken away, and should this shaft continue firm we shall soon see the 20. The tributers have taken down a small portion of their lode in the back of the 10 east of footway shaft. I see no alteration to notice in its value; still a very kindly lode, and yielding good work for silver ore.

**NEW WEST CARADON.**—N. Richards, December 22: The new lode in the winze sinking below the 38 east will yield about 1½ ton of copper ore per fathom. This lode in the level driving west has improved, and will now yield from ½ to 1 ton of ore per fathom. No. 5 lode west at this level is large, and is yielding good work for copper.

**NORTH GREEN HURTH.**—James Polglase, December 17: The vein in the south end is smaller than usual, and the ground continues about the same. The vein east is large, and without change.

**PATTERSYKE AND CLARGILL HEAD.**—John Peart, December 18: The drift going north in Sir John's vein from sump is now driven 17 fms. Near the forehead a strong vein is coming into the drift from the west, and in it we have found some ore. I think it is very likely to prove to be Clargill Head vein; it is richest about the middle of the drift. There is some good solid lead and some brangle; in another week I will be able to tell you more about it, but so far it is very promising, and at present is worth 6 cwt. of lead ore per fathom.

**POLBERRO.**—William Vivian, December 22: We are pushing on the cross cut north of the engine shaft at the adit level to intersect the Polberro great lode. Our tribute ground if without change to notice since my last report. We are taking out ground for the foundation of the engine house.

**POLBERRO TIN.**—W. H. Martin, J. Richards, December 22: Highbarrow Shaft: The 40 fm. level east, 4 fms. driving at 35. level east. In this drive we have met with a great change in the character of the lode. When we started the drive for plat, the north part of the lode was small, and principally composed of soft granite; now in the present end the lode is 3 ft. wide, composed of capel, spar, gossan, and produces tin; we have also cut a stream of water. The 70 fm. south cross cut is driven 6 ft., at 54. 10s. per fathom; the ground is full of branches. This cross cut east and east end are being driven by the shaftmen. The 70 fm. level west is driven 12 ft., driving by two men, at 31. per fathom; the lode here is of much the same character as that in the 40 fm. level east is extended 28 fms. 2 ft., driving by six men, at 44. per fathom. We have previously reported that the lode has been changeable; it is now better defined. The 50 fm. level east is extended 51 fms. 3 ft., driving by six men, at 54. 10s. per fathom. This end is in advance of the others; we are pleased to say that during the last fortnight this lode has much improved for tin, and we are now dressing a piece of lode which we shall take down to morrow. We anticipate this will exceed anything we have had in this level. There are two tribute pitches working by four men, at 13s. 4d. in 17. In conclusion, we beg to remark that the whole of the preliminary work is in accordance to the end, and every effort is being made to push on the drives with economy as fast as possible to obtain success. Our prospects, in sight, have much improved during the last four weeks.

**PRINCE ROYAL.**—S. Bennetts, December 23: In the No. 1 adit cross cut the ground continues just the same as last reported. In the No. 2 adit west end the Balduh lode is 3 ft. wide, and carrying a leader of tinstuff varying in width from 4 in. to 8 in. on the footwall, and is yielding ¼ cwt. of tin to the ton stuff; this is very encouraging.

**PRINCE OF WALES.**—S. Roberts, December 22: The shaftmen are busily engaged fixing the angle-bob and the main rope from the 77 to the 102, and we hope to get them ready for work by Thursday next; and as soon as the water is again forked to the bottom we shall at once commence to rearrange the lifts and fix the new plunges at the 102. The 115 east, on the main lode, is without change since last week. The 115 east, on new lode, not yet taken down; but it appears to be a large and promising lode. In the 115 west, on this lode, there is no improvement to notice. I intend putting these men to stop the back near the shaft as soon as the water is forked. The lode in the 102 east is not quite so good, but we think the change is only temporary, and will soon improve, as it is subject to being squeezed in places in this part of the mine.—Note: Engine shaft down 5 fms., not 8 fms. as reported in error last week.

**ROMAN GRAVELS.**—Arthur Waters and Son, December 22: We have just come in from the mine, and beg to report as follows:—The 125 north is worth 1 ton lead ore per fathom. The 125 south is 2 tons per fathom, and shows a fine promising lode. The 110 south is worth quite 3 tons per fathom. The middle north is worth 2½ tons per fathom, and the 95, 100, and 105, are without change in 95 or 100 and south. The stopes are worth together about 27 tons lead ore per fathom. Samples of 100 tons for sale next week go out by this day's post.

**SHEPHERDS UNITED.**—R. J. Nancarrow, December 23: Since reporting on the 8th inst., in driving the cross cut we have met with the north lode 2 fms. 3 ft. from Harvey's engine shaft at the 127, and have cut into it 7 ft. without having yet got through it; it is letting out a quantity of water which is a favourable indication for the production of lead; as far as it is seen it is of a very encouraging character, and will produce 20 cwt. of lead per fathom. In driving the 127 near the shaft as soon as the water is forked, the lode is 1½ ft. wide, and looking as we see it to be a point of great importance to extend this level under the deepest point—the old sump, to unwater where the main course of lead exists as quickly as possible, we would advise relling in cross cut to intersect the north lode at the present end, and drive east on the same, as we expect to find the ground more easy for driving, and probably richer for lead in the north lode. We have a pair of men still clearing the 102 east of Teague's shaft for the purpose of opening up tribute pitches, and they are now about 25 fms. from the shaft. Our tribute department at present is yielding 1½ tons of lead, and looking as our prospect in the 127 or bottom level, where we shall soon have 15 fms. of backs available for stopping on tribute or otherwise, we consider the future of this property to be presenting a much more encouraging appearance. Although we find the water to be increasing our 80 engine's mastering it very satisfactorily.

**SOUTH CONDURROW.**—W. Rich: The 40 end east is improving, now worth 82. per fathom for tin. The 70 and the 80 ends east are also looking better, and yielding more tin than of late. In the 80 end west the tin lode is getting larger as we extend to the new ground; the lode is worth 87. per fm., and looks likely to improve. We are preparing to sink Marshall's shaft, to prove the main tin lode in depth.

**SOUTH DARREN.**—John Mitchell, December 22: The following bargains were let on Saturday last for one month:—To drive the 142 end west, by eight men, at 94. 15s. per fathom. For the last few fathoms driven here the lode has been small; the ground is now a little harder, and may soon improve, although the end is still a considerable distance from where we had the good lode in the level end. To sink a winze in the 139 west by four men, at 161. per fathom; the lode is strong, but is much poorer for lead since last week; it seems to be bumpy. This winze is now being sunk where we had the best ore in the level, but is going down in the poor end of the ore ground. To stopes No. 3 stopes in the 130 west by four men, at 34. 3s. per fathom; worth 1 ton of silver-lead ore per fathom. This stopes is now very short, and will soon be worked up to the 120. To stopes No. 4 stopes in the 130 west by four men, at 34. 3s. per fathom; worth 1½ tons of silver-lead ore per fathom. To stopes in the 130 east by four men, at 37. 10s. per fathom; worth 16 cwt. of silver-lead ore per fathom. To stopes in the 120 west by four men, at 24. 15s. per fathom; worth 18 cwt. of silver-lead ore per fathom. The filling of the skips at 7s. per 100 skips. The landing of the skips at 5s. 3d. per 100 skips. The 20 tons of silver-lead ore sold on the 18th inst., realised 248. 10s.

**SOUTH TOLCARNE.**—John Jenner, December 21: Flat Lode: The lode in the 70 east is containing lighter and more congenial peach for the production of tin than for some time past. It is a large lode, strong, and healthy. I think we must be getting near the junction as the water issuing is coloured with red oxide.—Gossan Lode: In the 46 east we have a fine lode 2 ft. wide, and are making good progress, it is producing black and red oxide of copper and tin, but not enough to value as yet. This lode has all the elements of being productive as we advance.—Taylor's lode: No. 1 stopes in bottom of 12 is worth about 154. per fm. No. 2 stopes is worth 61. per fm., stopes in bottom of adit is worth 61. per fathom. The winze below the adit is most promising, and from indications I have no doubt of meeting with tin very soon. We have suspended the western winze for convenience of this level, and have put the men to rise in the back, in order to meet the junction of the gossan lode with this lode, which at about 3 fathoms more rising we hope to accomplish. This lode is highly mineralised with copper and containing a little tin, and has a highly promising appearance.

**STANDARD LEAD.**—W. H. Borlase, December 22: The lode in the 45 fm. level, south of new shaft, is again improving, and will shortly be as productive as ever it was. The lode is 3½ ft. wide, producing about 30 cwt. of blende and 10 cwt. of lead. The lode in the rise is for the present contracted by a flat; but no doubt we shall find the lode good again when we cut through. The lode in the 23 fm. level, south of junction, is without change to notice, producing about 1 ton of lead and blende per fathom. We have set the whole of the necessary for the engine-loading crusher-house, &c., and the contractors will start the work at once.

**TREVAUNANCE UNITED.**—William Vivian, December 22: We have sunk the engine shaft about 2 fms. below the adit level, but have no water to pump as yet. We have six men stopping the back of the adit level; lode worth 104. per fathom for copper ore; stoping at 24. 10s. per fathom.

**WEST BASSET.**—J. Nicholas, F. Hodge, December 21: In the cross cut at the 154, west of Thomas's, we have cut through the lode, which is 9 ft. wide and have commenced to drive both east and west of same. In the west end the lode is worth 81. per cubic fathom, and in the east end it is worth 254. per cubic fathom. We have resumed the driving of the 144, west of Thomas's, and we consider that by driving about 8 fms. further west we shall intersect the run of tin ground above. No other alteration to note since last reported on.

**WEST CARADON.**—N. Richards, December 22: No. 5 lode in the rise in the



There is a splendid lode in the bottom sump at D'Eresby—the best lode ever seen in the mine; and we hope now the long patience of the shareholders will be rewarded. The agent writes the secretary:—"I should very much like you to see the pile of ore that we hauled to surface to-day. I have never seen anything like it in this part of the country. It looks, too, as if it could continue."



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The Share Transfer Books of the company will be closed from Tuesday, the 22nd, to Wednesday, the 30th, instant, both days inclusive.

By order of the Directors, F. W. TURNER, Secretary.

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VIOLETA GOLD PLACER (Limited).—The secretary writes:—I am instructed to send to you the annexed extract from a letter received this day from the company's manager in Spain. You will see that good progress continues to be made at the company's mines, and that the improved sluicing machinery recently started is working well and showing much better results than that hitherto employed. Four of these improved sluices are now working, and no time will be lost in increasing the number to at least 30.—Extract from letter:—We have fixed and just commenced working with a set of four sluices on the new principle which, I am pleased to say, are answering well, and I am fully convinced it will be a great improvement in every way as compared with our former arrangement. I hope to get another similar set to work in three or four days, and we shall go on increasing the number as fast as possible. We have not taken up the blankets yet from the new set, but can see the gold very plainly on them, and we believe when washed they will show better results than we have yet seen. I am happy to inform you that the title to the extension of land known as "Violeta No. 2," is now duly registered in the company's name, and it is intended to commence working this also at an early date. Repeated tests and explorations made upon this extension during the past two months prove that the gravel is highly auriferous, and that it can be easily and cheaply worked.

**LEAD ORES.**

| Date.                | Mines. | Tons.   | Price per ton. | Purchasers.           |
|----------------------|--------|---------|----------------|-----------------------|
| Dec. 18—Great Holway | 10     | £10 4 0 |                | Walker, Parker, & Co. |

**BLÉNDE.**

| Date.                | Mines. | Tons.  | Price per ton. | Purchasers.      |
|----------------------|--------|--------|----------------|------------------|
| Dec. 22—Great Holway | 40     | £3 6 0 |                | Vivian and Sons. |

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**THE MINING JOURNAL,  
Railway and Commercial Gazette.**

LONDON, DECEMBER 26, 1885.

**COAL-CUTTING MACHINERY BY ROPE POWER.**

In a recent issue we drew attention to a new coal-cutting machine driven by rope power, and patented by Messrs. T. and R. W. BOWER, of the Allerton Main Collieries, near Leeds. As the cost of putting down the machine is said to be only about 50l., we consider the invention a most invaluable one, and such as has long been looked for by colliery-owners. Through the kindness of Messrs. BOWER we are now enabled to give a description and the mode of working which we doubt not will be read with interest by all persons interested in mining operations, and in the safe and economical production of coal. The machine, which is in every way simple, consists of an ordinary tram bottom, and like a corf can be adopted to any gauge of road, and is about 3 ft. in length, upon which is bolted a table having three straight sides, the fourth being in form of a quadrant with an opening about 1 in. wide, and 1 inch from the outside, upon the framework or tram bottom; a table is bolted or supported by four bearing screws with a nut on the underside as well as at the top to enable the machine to be set to the angle of the coal. In the middle of it there is a circular reef about 2 in. deep and 14 in. in diameter, in which is placed a circular bearing made to fit and revolve, carrying a horizontal cross-shaft upon which is keyed a bevelled pinion wheel 8 in. in diameter with 15 teeth, with a hole at the other end slotted for coltering on the cutter bar, the shaft being altogether about 2 ft. 4 in. in length. From this circular bearing is a bracket projecting about 5 in. into which is inserted a screw by which the bearing pinion wheel is made to travel so as to suit any angle the cutter is required to move in for doing its work. Near to the colter-hole in the cutter-bar is another small bearing about 2 in. through, which travels in the recess formed in the quadrant, the object being to support the cutter-bar, holding it stiff and steady, so that the hole cut by the bar in the coal is straight and uniform the whole length of the bearing, the size of the opening being determined by the diameter of the cutter. The horizontal shaft is driven by another bevel wheel keyed on to a vertical shaft about 14 in. in length, the shaft itself being supported from the table by two centre pillars and a cross-bar, the whole being cast with the table, a recess left in the centre of the cross-bar for a pedestal in which is fitted a brass bush which forms the bearing, which can be turned either to fit in circular form or put on in halves with a cap and bolts, so that it can be reduced when required from wear and tear, the bevel wheel being about 16 in. in diameter. At the top of the vertical shaft is keyed on an ordinary pulley 2 ft. in diameter, with a tread of 3 1/2 in. broad, plain without groove. Around this the rope which drives the machine travels, with the half-hitch aiding in propelling the machine forward as it finishes its work, or the machine can be made to move onward by hand. The cutter-bar is hexagonal, for the purpose of holding the washers firm. At one end of the bar a colter is welded on a socket with a colter-hole corresponding with that in the horizontal shaft, so that when the work is done the colter can be knocked out, and the bar brought out with the cutters. The machine can be easily put on one side, as the space occupied by it is only 3 ft. in length and 2 ft. in width. The washers, which are made to fit the bar, are drilled and tapped on every flat, so that there are six cutters in each washer, the cutters being made of steel about 3/4 in. in diameter. Thirty washers are required for boring 3 ft. 6 in. under, so that there are 180 cutters at work at one time. The machine can be applied in every mine where there are ropes for hauling or pumping purposes. The ropes along the faces are attached to a pulley at each end of the face, the pulleys being fastened to upright posts, each about 9 in. square, and are shifted every time the face moves 7 ft. in depth—that is, 3 ft. 6 in. for each fall, and allowing the machine to bore over the face twice. Should the face be 1000 yards in length and the coal 5 ft. 6 in. thick, the machine would produce 3500 tons of coal without moving a post at all. The pulleys are easily moved when the boring is completed, as their weight is only 14 lbs. each. The length of the rope can be determined according to the depth of the face, whilst by the introduction of a third pulley the rope can be lengthened every 7 ft., and for this purpose a clip-pulley has been introduced, which does not require the rope to be spliced. For shortening the rope, which can be done in about a minute, there is a shackle, one side of which is tapped to receive a 1/2-in. rivet, which is screwed at one end, the other being square, and by a very simple effort in connection with two shackles the rope is run on a clip-pulley, so that it can be thrown off or on like an ordinary belt, but more than six or seven minutes are required for putting the ropes to the pulleys con-

necting the machine and commencing working operations. When the cutters require sharpening the bar and all come to the top, and can be put on to a corf in the same way as the miner sends his picks out. When the nut is taken off at the end all the cutters slip off the bar with the washers, and are easily sharpened. A set of cutters newly sharpened will in ordinary work bore from 500 to 600 of coal in a seam 5 ft. 6 in. thickness. If the coal be drossy or full of hard matter they will require sharpening a little oftener. The cutter bar travels at the rate of 500 revolutions per minute, and will on an average in an ordinary seam bore from 16 to 18 yards per hour. At the colliery where the machine has been worked, the Messrs. BOWER state that it worked most advantageously, causing a great reduction in the amount of small coal made with a marked reduction in the cost of production. The ropes on the face or between the main road and the face, at the rate of 30 tons of coal for 1d. for man ropes, the cost would be about 1d. for 7 tons. The cost so given was worked out when the machine worked a mile away from the shaft, so that a mile of rope was required between the workings and the engine at the bottom. The power obtainable from the rope is equal to the driving of any machine hitherto constructed. The Messrs. BOWER are to be congratulated upon their invention, which we have every reason to believe will meet with the hearty approval, and secure orders from colliery-owners in all districts, seeing that there is no heavy outlay to commence with, and that the machine itself is a model of simplicity and easily worked.

**INDIAN GOLD MINES.**

The demand for these shares has again been a feature of the week, although holiday influences have had the usual tendency to restrict dealings. Prices, however, with a few exceptions have been well maintained in view of attendant circumstances. On Thursday there prevailed a generally strong tendency, which was most prominent in Indian Consolidated and Devala Moyer shares. There can be no doubt that these shares, as well as those of the Mysore, Nundydoo, and Ooregum Companies, have been largely bought for investment, and will be "taken up" at the coming settlement next week. In connection with this subject the letter of Mr. COLLINGWOOD KITTO, the circular from the Indian Gold Mines Company of Glasgow, and the usual reports from the companies, in another part of our paper, will be found interesting. Writing to our readers for the last time this year, we may add that there is every prospect that legitimate mining enterprise will receive a fair proportion of public interest in the New Year. The revival which we have persistently anticipated within the past few months is now a reality, and it is impossible to predict its full extent or influence. To all we wish the most cordial "compliments of the season."

**CERTIFICATED MINE MANAGERS, AND MINING INSPECTORS.**

In the able and interesting address delivered by Mr. CHAMBERS to the members of the Midland Institute of Mining Engineers, a full report of which appears in last week's *Journal*, there are one or two points to which we think exception will be taken in several quarters. Foremost amongst these is the question of the duties of certificated managers of mines, with respect to which Mr. CHAMBERS holds the opinion that the words in the Act of Parliament "control and daily supervision," should be so interpreted as to allow of a manager in charge not being present at the mine from day to day. That he considers to be the common-sense interpretation of the clause. If interpreted in a different sense he tells us that mineowners would then have to appoint an inferior class of men with less experience and lower position as managers. It appears to us, however, that the common-sense interpretation of the section is that "control and daily supervision" cannot be carried on at a distance from which such control and supervision is required to be done. If it is, then the duties of a certificated manager must be carried on by an inferior official appointed by him to report to him daily. Surely that cannot be taken as daily supervision by the certificated manager, and this view was recently held in the Court of Queen's Bench in the case of EVANS v. SMALL, the Judges deciding the idea that there could be any other interpretation put upon the section. With respect to appointing an inferior class of men as certificated managers we need only point to the fact that before a man receives a certificate he has now to undergo a strict examination to prove that he is fully qualified for such a position. We do not believe that Mr. CHAMBERS will go so far as to say that a man who has passed his examination and received his certificate is not capable of being entrusted with the management of a mine. We should, therefore, like to know what he means by the inferior class of men who could be appointed certificated managers. On the other hand, we quite and fully agree with Mr. CHAMBERS in his views with respect to the appointment of working miners as Inspectors. Anything more opposed to reason, and calculated to be in the highest degree injurious to the working miners, and an annoyance to mineowners, could not well be conceived. Mine managers have to undergo a scientific as well as a practical training, and to say that they are to be told how to work a mine by those who have not the slightest knowledge of gases, aeriform fluids, modes of ventilation, mechanics, or who are, indeed, men of little or no education whatever, is such a gross and glaring absurdity that one can only wonder how any Secretary for the Home Department, or any other department, in fact, could see any advantage in appointing a working collier to be a Mines Inspector, whose duty it should be to instruct those who held certificates as managers, only obtainable by study, education, and scientific and practical knowledge.

WEST FRANCES account on Tuesday proved our anticipations to be correct, Captain Josiah Thomas not attempting a profit until the new shaft is communicated, and this should be done before the next meeting.

Everything indicates an easy settlement of the strike at the Llanberis slate quarries, which has now extended over nine weeks, affecting about 3000 hands. Mr. John Robinson, the managing proprietor of the Talygarn Slate Quarries, and an extensive employer of labour in the district, has been agreed upon as the arbiter between Mr. Asheton Smith and his workmen, and it is confidently anticipated that the quarries will be reopened at the beginning of the New Year. As regards the strike at Llandulas, there is no sign of a settlement, and the men seem intent upon keeping imported labour out of the district.

JAMES SIMPSON AND COMPANY (LIMITED).—Object, purchase from James Simpson, of Vicarage-gate, Kensington, the business of a manufacturing engineer, and carry on the business of the same, and machine and engineering tool makers, boiler makers, iron-founders, brassfounders, millwrights, and metal workers, &c. Registered by Bell, Stewards, and May, 49, Lincoln's Inn-fields, W.C. Capital 71,000l., divided into 7100 shares of 10l. each. The following first subscribers (who take one share each) are—James Simpson, 101, Grosvenor-road, S.W.; Arthur Telford Simpson, 38, Parliament-street, Westminster; Charles L. Simpson, 101, Grosvenor-road, S.W.; Thomas B. Simpson, 1, Victoria Mansions, S.W.; E. P. Simpson, 13, Second-avenue, West Brighton; John G. Mair, engineer, 101, Grosvenor-road, Pimlico, S.W. The number of directors to be not less than three nor more than seven. Qualification, 20 shares.



The Mining Market: Metals, Ores, &c.

METAL MARKET—LONDON, DECEMBER 24, 1885.

| IRON.                       | £ s. d. | English.                      | Tin.        | £ s. d. |
|-----------------------------|---------|-------------------------------|-------------|---------|
| Pig, G.M.B. f.o.b. Clyde... | 2 1 7   | English, ingot, f.o.b....     | 37 0 0      | —       |
| Scotch pig, No. 1 Gart...   | 2 6 0   | bars ...                      | 38 0 0      | —       |
| " " " " " "                 | 2 10 0  | refined ...                   | 39 0 0      | —       |
| " " " " " "                 | 2 6 0   | Australian ...                | 39 0 0      | —       |
| " " " " " "                 | 2 6 0   | Banca ...                     | 32 15 0     | 93 0 0  |
| Bars Welsh, f.o.b. Wales... | 4 10 0  | strait ...                    | 32 15 0     | 93 0 0  |
| " " " " " "                 | 5 0 0   | Copper...                     | 44 0 0      | 41 10 0 |
| " " " " " "                 | 5 15 0  | Tough cake and ingot...       | 45 0 0      | 46 0 0  |
| " " " " " "                 | 4 15 0  | Best selected ...             | 45 0 0      | 46 0 0  |
| " " " " " "                 | 9 0 0   | Sheets and sheathing...       | 45 0 0      | 52 0 0  |
| " " " " " "                 | 9 0 0   | Flat Bottoms ...              | 55 0 0      | —       |
| Rails, Welsh, at works...   | 4 10 0  | Wallaroo ...                  | nom.        | —       |
| Sheets, in London ...       | 8 17 6  | Burra, or P.C.C. ...          | nom.        | —       |
| Plates, ship, in London...  | 5 15 0  | Other brands ...              | 46 0 0      | 48 0 0  |
| Hoops in London ...         | 5 17 6  | Chili bars, g.o.b. ...        | 40 17 6     | —       |
| Nail rods, in London ...    | 5 17 6  | QUICKSILVER...                | 6 5 0       | —       |
| English spring ...          | 6 0 0   | Plasma, 75 lbs., war. ...     | 6 5 0       | —       |
| " " " " " "                 | 25 0 0  | Phosphor Bronze...            | £95 0 0     | —       |
| Swedish, keg ...            | 12 0 0  | Alloys ...                    | 105 0 0     | —       |
| " " " " " "                 | 12 0 0  | " " " " " "                   | 115 118 0 0 | —       |
| Rails at works ...          | 4 15 0  | " " " " " "                   | 96 0 0      | —       |
| " " " " " "                 | 4 15 0  | " " " " " "                   | 93 0 0      | —       |
| " " " " " "                 | 5 15 0  | " " " " " "                   | 93 0 0      | —       |
| English pig, common...      | 12 10 0 | BRASS...                      | 5 1/4       | —       |
| " " " " " "                 | 12 10 0 | Wire ...                      | 7 1/4       | —       |
| " " " " " "                 | 12 10 0 | Pipes ...                     | 7 1/4       | —       |
| " " " " " "                 | 12 10 0 | Sheets ...                    | 5 1/4       | —       |
| " " " " " "                 | 12 10 0 | Yel. met. sheath. & sheets... | 4 1/4       | —       |
| " " " " " "                 | 12 10 0 | TIN-PLATES...                 | 18 6 0      | 19 6 0  |
| " " " " " "                 | 12 10 0 | Charcoal, 1st quality ...     | 17 6 0      | 18 6 0  |
| " " " " " "                 | 12 10 0 | " " 2nd quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 3rd quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 4th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 5th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 6th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 7th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 8th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 9th quality ...           | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 10th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 11th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 12th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 13th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 14th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 15th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 16th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 17th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 18th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 19th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 20th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 21st quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 22nd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 23rd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 24th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 25th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 26th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 27th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 28th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 29th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 30th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 31st quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 32nd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 33rd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 34th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 35th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 36th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 37th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 38th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 39th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 40th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 41st quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 42nd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 43rd quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 44th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 45th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 46th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 47th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 48th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 49th quality ...          | 15 6 0      | 16 6 0  |
| " " " " " "                 | 12 10 0 | " " 50th quality ...          | 15 6 0      | 16 6 0  |

GENERAL REMARKS.

Christmas week is a time when business in metals is never particularly brisk, and this week there has continued the usual characteristic of inanimation. No new special or important feature has arisen, though the tendency of prices has been in favour of buyers, but copper at the beginning of the week was rather strong, though that metal has also since collapsed, and been transacted at reduced rates. At the same time a strong effort has naturally been put forward to stay the downward course. There is a general tendency all round to withhold business until after the holidays, and our market, as well as the Scotch Warrant Market, will be closed from 2 o'clock to-day until next Monday. The week is, therefore, a short one, and business is necessarily contracted, but, at the same time, the short relaxation will be peculiarly welcome this year, as it will enable those connected with the trade to shake off the anxiety about the future of the market for a few days and to disconnect themselves from the trying excitement of the past few weeks. It is a matter of regret that the result of the past year's business will not tend to increase the cheerfulness of this festive season, but, on the other hand, it is satisfactory that there has been no serious relapse at the close, the characteristic feature of the past week being steadiness, with only a slightly easier tendency, and with this result, combined with the hopes of better trade, though the grounds for that sanguinity may be there is reason to be satisfied, because, under the circumstances, all that could reasonably be expected has been realised. It is unnecessary now to look back upon the whole history of the trade during the closing year; but with the result of that business it is essential to be acquainted, as it brings us to the present actual position of the market. In most metals there is a dull and gloomy feeling existing; business is almost at a standstill; the advices from the great centres of industry reveal a very bad state of trade; manufacturers experience difficulty in keeping their works in employment; there is a scarcity of orders, and a great increase in public stocks of some metals; whilst the result of the recent speculative mania in copper has still to be felt. Naturally, therefore, there is room for the gravest anxiety, and the little break from business this year will, therefore, prove a welcome relief, and, perhaps, far more so than is usual. The easy tendency of prices, however, is to be attributed to more causes than the approach of the holidays. There are weighty matters connected with the several markets that cannot be disregarded, and, perhaps, the drooping prices are to be attributed more to matters connected with the separate markets than from any special general causes. Nevertheless, there are a few events which affect all markets more or less, and to them here we may briefly refer. There is in the first place the tightening tendency of money, upon which we dwelt fully last week; following upon this is the continued depreciation of the value of silver, and in connection therewith must be mentioned the unfavourable rate of Exchange, which keeps business with India and China almost at a dead standstill. Furthermore, there are the unfavourable advices received from America, which show that the improvement in trade in that country has fallen through which is a matter of much regret, since it was to America that so many persons have been looking lately for trade revival. A little better feeling existed in that country, and business there was decidedly better, and it was to be hoped that it would develop and spread its influence to our markets. But no such influence has been experienced, or at all events only to a very slight extent, and that chiefly speculative, and now that the reports from America have been received that there is a positive falling away, and that the better tone is not supported, all hope of speedy revival has for the time being been frustrated.

COPPER.

Notwithstanding that the smelters reduced their prices for strong sheets 2l. per ton at the close of last Friday, the market opened on Saturday with a fairly strong tone, and business for cash bars was done at 40l. 15s., the price further strengthening on Monday to 41l., though there was not a large business transacted, and on Tuesday morning up to 41l. 3s. 9d. was paid, but the market by no means closed on that day at its best, there being sellers over at 41l. 2s. 6d., and yesterday morning whilst a fair number of transactions took place they were chiefly at lower prices, 40l. 15s. having been accepted, but the market stiffened later on, and the official price was quoted at 40l. 17s. 6d., though afterwards the tone became easier, and there were sellers over at 40l. 15s., while to-day the market has been stronger, and the closing price is 40l. 17s. 6d. The market, therefore, during the week has really not undergone much change. First it has been strong, then easy. It has rallied only to come back again from

whence it started. Holders have gained nothing by the movements of the week except to rid themselves of a few parcels at a little better prices which favourable feature has been counterbalanced by the extra uncertainty as regards the future, and although now the market is in much about the same position as it was a week ago, still there is this very material difference that whilst it was then strong with an upward tendency it is now decidedly easy, and not much confidence is expressed as regards the future. It may be interesting to briefly notice the causes of the movements during the week. For instance, the upward tendency at the early part of the week may seem a little surprising in face of the reduction in prices for strong sheets, which was evident proof that smelters were badly off for orders, but in reality the rise in Chili bars can easily be accounted for, as operators whose interest it is to sustain the market, are obliged to use extra effort to support prices whenever any new unfavourable feature arises. The market would drop heavily if they did not, for the maintenance of prices depends solely upon them, and there is not the essential backbone to the trade—a good regular demand—and whilst this is wanting any advance effected is but artificial, and soon crumbles away just as it has done during the last few days. The tone of the market changes so suddenly, the slightest feature depresses or restores the feeling in a very short space of time, certain operators are bent on bolstering the market, others are inclined to bear, the feeling is peculiarly sensitive and there is a great uncertainty as to the next movements of operators. They may be to favour a rise or to encourage depreciation. They may seek to give support to the market or withhold it, and in all this uncertainty a nervous and hesitating feeling prevails, whilst the general trade does not revive, and none of the works are over well supplied with orders.

IRON.

During the past week there has been very little business done in this metal, but this is nothing unusual at this Christmas season of the year. Business is dull, but it is natural that it should be so, and prices are easy, but that is the natural and necessary accompaniment of bad trade. Orders are limited, but it is usual for buyers to hold back their orders until the turn of the year, and, therefore, the slackness in trade at the moment is partly to be attributed to ordinary and regular circumstances. The trade has been in a bad state for some little time past, and, therefore, there was the less likelihood of any revival or activity in the trade just at the moment. The works close for a few days. The Glasgow Warrant Market will not be opened from this morning forenoon until next Monday, and again will be closed from mid-day next Thursday until the following Tuesday, so that there is every reason to anticipate that for the next week or so there will be very little business transacted. Business for both the regular requirements of the trade, and also for speculation is dormant, operators especially being indisposed to follow up their market. Many holders have been induced to realise, and sales have been pressed which has caused prices to assume an easy tendency particularly in Scotch pigs, which are chiefly dealt in by operators. The market is depressed from a variety of causes, but chiefly on account of the vastly increased stocks, the increase during the past week having been much heavier even than the increase during the previous week, the excess for the week in Glasgow and Middlesborough being nearly 10,000 tons. Of course this extra quantity is in a measure to be accounted for from causes to which we have referred, but at the same time the result produced upon the market is none the less serious, and it shows that whilst buyers have been indisposed to go on purchasing, producers have been none the less active in maintaining their production. Considering the enormous increase in the public stocks, the little fall in prices is not surprising; but, on the contrary, holders may congratulate themselves that no further fall has occurred than what has actually taken place. With such rapidly growing stocks, it is only to be expected that many holders would become nervous, and rid themselves of their stocks as rapidly as possible, and therefore extra strength is required from the generality of holders if they are to keep up their market from materially falling away. They must be prepared to buy up and purchase freely whatever quantities may be pressed upon the market. They must be ready to finance and buy not only the quantities forced upon the market by weak holders, operators, and those who have wearied of their stocks, and think it advisable to cut off all further interest in the metal, but also to purchase in great measure the extra production over and above trade requirements, which is no small matter when stocks are increasing in their present ratio. And, further than this, if holders are to support their market they must be ready to pay full prices. The outside public cannot be tempted into the market. All the required support must be given by the holders themselves, and they have unquestionably a most difficult task before them. It would seem that makers can realise some profit, it may be only small; but still some profit from current prices, and, therefore, though they cannot effect sales in any quantity to general buyers for consumption, still if holders can be found to make purchases, and thus relieve makers of the iron they make, it is only to be expected they will continue to produce in as large quantities as they have heretofore done. It gives employment to their forges and men during the very trying time of trade depression, and they thus continue to make, and wait the better times of trade revival. The Glasgow Warrant Market opened on Monday with a dull tone, and the price receded to 41s. 10d., closing, however, a little higher, but on Tuesday the prices dropped to 41s. 9d., recovering to 41s. 10d. Yesterday the quotation fell to 41s. 7d., and the price this morning is 42s. 6d. The shipments last week were 6855 tons, against 6091 tons for the same week of last year, being an increase of 764 tons, and which makes the total shipments for the whole of the year 430,785 tons, against 520,114 tons for the same time of last year, and 623,657 tons for the similar period of 1883. There are 92 furnaces in blast, and the public stock has been further increased by 5439 tons, and now amounts to 663,837 tons, against 658,398 tons a week ago. The imports of Middlesborough pig-iron into Grangemouth last week were 6061 tons, against 7935 tons for the same week last year being a decrease of 1874 tons, and which makes a total increase for the whole of this year compared with last of 91,098 tons. The Middlesborough market has remained very weak, and prices have tended downwards, the quotation for No. 3 being 31s. 9d. for prompt delivery and 32s. to 32s. 6d. for forward. Sales are limited, particularly for next year's delivery. Forge iron is quoted at 30s. 9d., and warrants at 32s. 6d. There is an increase in the public stock of 4027 tons for the week, which now amounts to 132,716 tons, while the shipments so far during the month have been very limited, amounting to only 38,000 tons. Manufactured is without much alteration, the demand being dull, and prices much about the same at 4l. 12s. 6d. to 4l. 15s. for bars, at 4l. 5s. for angles, and at 6l. 10s. for ship-plates.

TIN.

This market has been rather quiet, and the tendency has chiefly been in a downward direction, although there have been times when holders have exercised strength, and given support to the market. For instance, the price was fairly firm on Saturday, and also on Monday morning, 93l. then being paid for cash, but at the close of that day there was an easier tendency, whilst on Tuesday a somewhat heavy drop was made, the lowest official price being 92l. 15s., but after the list had been made up, 92l. 10s.

was taken. Yesterday a steadier tone existed, and 92l. 12s. 6d. was the general price for cash, and the closing figure to-day is 93l. There is no new feature to record in this metal, and the changes effected during the week are not sufficiently important to call for any special comment, nor do they indicate the prospect to any extent. They are merely a repetition of the fluctuations to which the market has been subject more or less for the last six months, the price wavering first up and then down, at times favouring buyers, and at others tending in favour of sellers, and these changes must almost of necessity continue for to maintain a steady range of prices at present figures is next to an impossibility, particularly in view of the contrary interests that exists, and the speculative influence which is always to a greater or lesser extent directed to this metal. If the fluctuations do not terminate in leaving prices any lower than what they have been this week, there is no reason to be dissatisfied, because the reduction might, as it has on several previous occasions, take a sharp rebound. It does not require much to induce operators to buy. They may neglect the market for a little while, they may be tempted to let prices recede to a certain minimum without much check. They may direct their attention almost entirely to other metals, copper just now attracting a considerable portion of the usual attention bestowed upon tin, but for all that, if we may take recent precedents as an indication of the future course of operators, buying will soon again become spirited, and prices quickly restored. The advices from America are a little disappointing, as they show lower quotations, which bears its influence upon our market here, and rather tends to depress the tone and weaken prices. On the other hand, advices received from Amsterdam early in the week report the market there as firm, and quote Billiton at 55½ g., and Banca at 56½ g., so that the unfavourable advices from America are about counteracted by the more favourable reports from Holland, and consequently no particular importance need be attached to either the one or the other, as prices here have not been materially regulated or influenced by either of them.

SPELTER is quiet, at 14l. 17s. 6d. to 15l. for ordinary brands and 15l. 2s. 6d. to 15l. 5s. for specials.

LEAD is quiet but steady, at 12l. 2s. 6d. to 12l. 5s. for Spanish, and 12l. 10s. to 12l. 12s. 6d. for English.

ANTIMONY is quiet, at 35l. 10s. to 36l.

STEEL is rather quieter, but unaltered in prices.

TIN-PLATES are without fresh feature.

QUICKSILVER remains in the same inactive state, and price is nominal.

We much regret to record the death of Mr. Napoleon Frederick Watson, for more than 30 years a member of the firm of Watson Brothers, of 1, St. Michael's-alley, Cornhill. The deceased left the office about 5 o'clock on Tuesday evening, apparently in his usual health, but died before he reached home, of angina pectoris, in the 60th year of his age. One of the kindest-hearted of men, his loss will be deplored by all who knew him. Much sympathy is expressed for his brother, Mr. J. Y. Watson, in this suddenly heavy bereavement, in which we all join.

"Few words are best  
When grief is paramount."

Owing to the Christmas holidays business in the MINING SHARE MARKET closes at 12 o'clock to-day (Thursday), and we give the closing quotations up to that time. Very little change, it will be seen, has taken place either in the amount of business transacted, or in quotations, which, for the most part, are merely nominal.

TIN.—There is very little change here and shares generally are very quiet. Blue Hills, 3 to 1; Carn Brea, 2½ to 3; Cook's Kitchen, 8 to 9; East Blue Hills, 30s. to 35s.; East Pool, 47s. to 48s.; Killifreth, 10s. to 12s. 6d.; New Kitty, 1½ to 1½; Prince Royal, 4s. to 6s.; South Condurrow, 5½ to 6; South Crofty, 6 to 6½; South Frances, 6½ to 6½; Tincroft, 5½ to 6; West Basset, 2½ to 3½; West Godolphin, 1½ to 1½; West Kitty, 7½ to 7½; Wheel Agar, 19 to 20; Wheel Basset, 5 to 5½; Wheel Grenville, 17 to 18; Wheel Kitty (St. Agnes), 3 to 1; Wheel Metal and Flow, 3 to 1; West Frances, 8½ to 9; at the meeting a loss of 257l. was shown on four months' working, and a debit balance of 657l. Owing to water in the mine for the last week, drawing could not be gone on with, or the costs would have been paid; 105 tons of tin were sold for 5160l., and 5 tons raised but not sold are credited.

COPPER remains about the same, and the share quotations are mostly nominal. Bedford United, 2 to 2½; Devon Great Consols, 2½ to 2½; Mellanear, 2 to 1½; New West Caradon, 2s. 6d. to 3s. 6d.; Prince of Wales, 6s. to 8s.; West Seton, 4 to 4½; although the call here was only 5s. per share, or 600l., the debt in the mine is 4754l. 13s. The sales of tin from September 24 to December 16 realised 32597. 4s.; copper, 1027. 13s. 7d.; arsenic, 312l., and the agents have reason to hope that the returns of tin will increase; still a call should have been made to meet the liabilities. Attention was called to this in the Journal four months ago, Ecton, 1½ to 1½.

LEAD remains firm, and there has been rather more doing in shares, particularly in D'Eresby. Vans are quoted 30s. to 35s.; Great Laxey, 10 to 11; Roman Gravel, 4½ to 5½; this mine has again sampled 100 tons of lead. D'Eresby shares have been in good demand at 25s. to 35s.; a great improvement has taken place in the bottom of the mine. Leadhills, 2½ to 2½; New Langford, 3 to 3½; the tributaries continue to raise good silver ore. South Darren, 9s. to 11s.

FOREIGN MINES have not been nearly so brisk, nor have prices on the whole been maintained. Almada and Tinto, 4s. to 6s.; Bratsberg, 4 to 4½; Birdseye Creek, 1½ to 1½; Callao Bis, 9s. to 10s.; Cape Copper, 24 to 26; Chile Gold, 6s. to 7s.; Colorado, 2½ to 3; Colombian Gold, 8s. to 9s.; Indian Consolidated, 1 1-16th to 1 1-16ths; Copiapo, 3 to 3½; Frontino and Bolivia, 11s. 3d. to 13s. 7d.; Glenrock Gold, 8s. to 9s.; La Plata, 5s. 6d. to 6s. 6d.; Mysore, 5½ to 6; Nandydroog, 1½ to 2; Oregan, 2 to 2½; Organos Gold, 1 to 1½; Orita, 2 to 1½; Panulicillo Copper, 2½ to 1; Potosi, 5s. 6d. to 6s. 6d.; Richmond, 4 to 4½; Ruby, 8s. to 10s.; St. John del Rey, 68 to 70; United Mexican, 2½ to 2½; Victoria Gold, 2s. to 3s.; Schwab's Gully, 3 to 3½; Don Pedro, 3s. 6d. to 4s. 6d.; Eberhardt, 2s. to 3s.; Hoover Hill, 7s. 6d. to 10s.; Javali, 2s. 6d. to 3s. 6d.; Lisbon Berlyn, 2s. 6d. to 3s. 6d.; Montana, 3½ to 3½; New Emma, 4s. 6d. to 5s. 6d.; Pestarena, 2s. 6d. to 3s. 6d.

FIRE-RESISTING CONSTRUCTION.—At the ordinary monthly meeting of the Manchester Joubt Club, held on Friday (Mr. Goulty in the chair), an interesting paper, "On Fire," was read by Mr. J. L. Savage, the deputy superintendent of the Manchester Fire Brigade. A considerable portion of the paper was devoted to the consideration of the best materials to be used as fire-resisting construction in modern buildings. Mr. Savage very emphatically condemned the recent large introduction of stone and iron work construction as very treacherous materials in the case of a fire, stone being so liable to fracture in intense heat, whilst the expanding and contracting properties of iron under varying temperatures rendered it a dangerous material under the conditions to which it would be exposed in the case of a fire. He believed in reverting very largely to the old wooden beams; and where iron supports were introduced he strongly recommended that they should be cased over with plaster or cement to preserve them as much as possible from the full effects of the heat in case of fire. As a very excellent fire-resisting material for building construction, Mr. Savage referred to the Johnson rolled wire lathing, which had successfully withstood very severe trials made recently in Manchester, a description of which full particulars has already been published in these columns.



## TERRIBLE COLLIERY ACCIDENT

CARDIFF, December 23.

An alarming colliery explosion took place to-day at the Mardy Colliery of Locket's Steam Coal Company (Limited), situated near Ferndale, and has resulted in a supposed loss of 300 lives. Up to the present time nearly 100 bodies have been found, and diligent search is still being made. The Mardy Colliery is situated in the Rhondda Valley, about 2 miles from Ferndale, which is on a branch of the Taff Vale Railway. There are two pits, which were sunk about seven years ago, and thus the colliery is comparatively a new one, while it is reputed to be structurally one of the best and safest in the district. The down cast shaft is 300 yards in depth, while the depth of the up cast is between 370 and 380 yards. The coal worked contains a great deal of gas. It is a first-rate steam coal, the vein being similar to that at the Ferndale Colliery, where, it may be remembered, two very serious explosions took place some time ago. The first of these was in November, 1867, when the whole of the workings were fired, and the recovery of bodies was made very difficult by reason of the coal which blocked up the passages. On this occasion over 100 lives were sacrificed. The second explosion was in June, 1869, when 60 workmen met with their death at the Ferndale Colliery, the coal of which is of the same seam as that worked at Mardy, the two pits being only about 2 miles apart. The ventilation of the Mardy pit is effected by means of a fan, one of the largest in the district, which sends a splendid current of air through the workings. This explosion is the first that has occurred at the colliery since coal was first struck, at the end of 1877, while the work attendant upon coal winning has been singularly free from accident.

This third explosion is still more serious. At 7 o'clock this morning some 1100 men descended into the two pits, about 800 entering the downcast cage, while 300 more descended to the workings by means of the upcast. Men and minerals were wound up and down at both shafts, which occupy situations about 70 or 80 yards from each other.

The work of the mine proceeded in the ordinary way till a quarter to 3 o'clock, when a terrific report, accompanied by a huge volume of flame belching forth from the downcast shaft (through which the 800 men had descended to their work), proclaimed to the workmen on the surface, and, indeed, to the whole village of Mardy, that there had occurred one of those terrible calamities which are the dread of mining communities. Mardy is purely a colliery village, which has grown up with the pits, and most of the male inhabitants earn their bread in Locket's colliery. The houses occupied by the people almost border on the colliery, and, therefore, the explosion was distinctly heard by the wives and sisters of those who were hewing coal in the mine. It being Christmas time, many of the female inhabitants were away from home busy making their purchases in preparation for the season, but still there was a large number of women by their firesides waiting for the men, who would return in the ordinary course at five o'clock. Among these the alarm was something terrible to contemplate as, hurrying on bonnets and shawls, they rushed down to the mouth of the pit in excited groups. They knew what the report and the lurid flash of flame portended, and their anxiety to learn the worst was pitiable to see. Immediately after the explosion Mr. William Thomas, consulting engineer of the company, organised a gang to repair the down shaft, with the object of descending into the workings. The shaft was not very badly damaged at the top and for some distance down, and thus the repairs were effected without any great difficulty. The cage was lowered with an exploring party, but on nearing the bottom they met with a very formidable and, as it proved, insurmountable obstacle. This was a great pile of debris in their way; indeed, the whole of the bottom of the shaft and the companion cage were wrecked, and placed an impassable barrier in the way either of ingress or egress. Certain it was that if that were the only way of escape those miners who might have survived were doomed to a living entombment, for a time at any rate. The guide ropes, too, were broken, and presented nothing but twisted and broken ends. Entrance by this means being thus rendered impossible, the exploring party turned their attention to the upcast shaft, and, walking over the surface ground, soon reached it. They found it intact, and a descent was at once begun, the time being now about 5 o'clock. Upon arriving at the bottom they found large throngs of eager and excited miners, who were ignorant of the fate of their comrades. The exploring party at once proceeded to the task of getting these men up, and amidst great excitement among the bystanders at the top of the shaft, 900 men were safely rescued in about three hours.

This, however, still left more than 200 unaccounted for in the workings. The party again proceeded to descend, and commenced the search for the missing men. After some little time they came upon the first sign of them. Upon penetrating along the passage a sad spectacle met their gaze. They saw there nearly 100 dead bodies, lying upon the ground in most piteous attitudes. It was evident that a rush had been made to the bottom of the shaft, and in this fatal rush the weakest had gone to the wall. Some were lying on their faces, some had evidently been trampled on, and the faces were for the most part horribly contorted. Strenuous efforts were made to conclude the task; but up to the time of telegraphing no more bodies had been recovered.

## ANOTHER ACCOUNT.

PONTYPRIDD, December 23.

At about 20 minutes to 3 this afternoon one of those awful catastrophes which cause the wildest excitement in the mining districts of South Wales happened at the No. 2 colliery, Mardy. The colliery is owned by a firm of gentlemen resident chiefly in London, and is under the immediate supervision of Mr. William Thomas, Brynawel, who had, it appears, only just ascended from the pit before the disaster occurred. Every requisite modern science could invent has been adopted to insure a thorough system of ventilation, and only last evening the workings had been examined by men appointed by the colliery, who reported that, so far as a supply of fresh air was concerned, everything was in a most satisfactory state. The depression in trade has not been so severely felt there as in many parts of the district, the miners having been employed of late constantly at most of the collieries. There was on this account a full complement of the men engaged near the No. 2 pit in the upcast shaft, up which the men who had been fortunate enough to escape with their lives are being slowly drawn to bank. When the report was spread, the pit's mouth was soon besieged by numbers of women and children. Some cried and wrung their hands in the wildest despair. One poor woman fainted, and had to be carried away; another recognising her son as being amongst the first rescued fell on his neck, and wept tears of joy.

The workings extend on both sides of the shaft, one portion extending in the direction of Aberdare, and the other lying towards the Rhondda. It was in this latter or No. 2 Rhondda division that the explosion took place. Its effects above-ground has been most disastrous. The guides of the pit have been broken, so that communication with the bottom is impossible. The framework of the top has been damaged and the panes of glass in the weighing machine shed have all been blown to atoms. The men from the district towards Aberdare have, it is thought, all escaped; but it is feared that many lives have been lost in the other district. The damage done to the pit is immense, and, owing to the falls, it is not yet possible to reach the entombed men. Out of the 773 persons employed, or to whom lamps were given this morning, 520 work in No. 2 pit, and a large proportion of those work in this fatal division. Up to the time of writing five, all injured by burns, have been rescued and taken to their homes, where Dr. Parry and a medical staff are in constant attendance. Excepting in one case, the burns are not considered to be very severe. How many lives have been lost it is impossible to say at present. The energies of the explorers are directed towards getting out of the pit those who have escaped uninjured. There are at present thousands round the mouth of the pit and the mountains on either side, from the number of lighted lamps, and, show that great numbers are making their way to the scene of

the catastrophe from the adjoining valleys. It is feared nearly 200 lives have been lost. All the men are in the Permanent Fund. Mr. Abraham, M.P., the district agent, is on the spot.

The latest report yesterday (Thursday) says: The explosion has not resulted in so many deaths as was at first anticipated, although the consequences have been terrible enough, 75 bodies having been brought to the surface. The search for survivors continued all night. The rescue party in their explorations passed over heavy falls, and came across dead men lying among the horses, all killed by the explosion, and many of them horrible burned. In their wanderings the men came on one cheering scene. About 1 mile from the bottom they were startled to find lights in front of them, and to their inexpressible joy found 30 of their comrades, much exhausted but alive. Two of them were so dreadfully burned that they died in presence of the explorers.

## Mining Notes.

Mr. Collingwood Kitto requests us to state that he is in no way, directly or indirectly, connected with the St. Augustine's Diamond Mine. Mr. Kitto reported on this mine four years ago, and the present company have adopted this report in placing it before the public. Those interested in the company should read the full report.

The subjoined table shows the prices of the various Indian Gold Mines shares each day this week:—

|                     | Satur-day. | Mon-day. | Tues-day. | Wed-day. | Thurs-day. | Fri-day. |
|---------------------|------------|----------|-----------|----------|------------|----------|
| Dvala Myar          | 1/2        | 1/2      | 1/2       | 1/2      | 1/2        | 1/2      |
| Indian Consolidated | 1 1/2      | 1 1/2    | 1 1/2     | 1 1/2    | 1 1/2      | 1 1/2    |
| Indn. Glen-<br>rock | 3/4        | 3/4      | 3/4       | 3/4      | 3/4        | 3/4      |
| Mysoore             | 5/8        | 5/8      | 5/8       | 5/8      | 5/8        | 5/8      |
| N. S. S. S.         | 1 1/4      | 1 1/4    | 1 1/4     | 1 1/4    | 1 1/4      | 1 1/4    |
| Oreogum             | 1 1/4      | 1 1/4    | 1 1/4     | 1 1/4    | 1 1/4      | 1 1/4    |
| Nine Reefs          | 1 1/4      | 1 1/4    | 1 1/4     | 1 1/4    | 1 1/4      | 1 1/4    |
| Mysoore Reefs       | 1 1/4      | 1 1/4    | 1 1/4     | 1 1/4    | 1 1/4      | 1 1/4    |

The applications for the remaining shares in the Nine Reefs Gold Mining Company (Limited), which closed at noon on Monday, were largely in excess of the number offered.

On Saturday, at the Royal Hotel, Cardiff, Mr. Alexander (Messrs. Stephenson and Alexander) offered for sale the Llantwit Colliery, with cottages, plant, tools, &c., situate in the parishes of Eglwysilan and Rudry. The bidding commenced at 5000*l.*, and by advances of 500*l.* was forced up to 9500*l.*. No further advance being made, the auctioneer declared that the reserve price had not been reached, and added that he would be open to receive private offers for the property. The wagons were afterwards disposed of to Mr. Murphy, Newport, at 7*l.* 10*s.* each.

The directors of St. John del Rey Mining Company (Limited) have received the following telegram from Morro Velho, dated Rio de Janeiro, December 22, 1885:—Produce, 12 days, 1st division of December, 9000 oitavas, value 3487*l.*; yield 5.3 oitavas per ton. Profit for the month of November, 500*l.* Cuiaba expenditure in excess of produce during November, 250*l.*

The Richmond Consolidated Mining Company have received the following cablegram from the mine at Eureka, Nevada:—Week's run (one furnace), \$16,000 from 304 tons of ore. Refinery, \$16,000.

The United Mexican Mining Company have received the following telegram:—The excess of returns over outlay on the San Cayetano de la Ovejera for the week ending December 19 was \$1703, Santa Monica \$769, El Diamante \$53.

The following telegram from the manager was received at the Ruby and Dunderberg Company's offices on Tuesday:—Eureka, Nevada, December 22, 1885.—To the Ruby and Dunderberg Consolidated Mining Company, 5, Crosby-square, London—15 tons of tribute ore shipped this week; 15 tons of tribute ore smelted, producing to company \$183 net; 13 tons ore smelted on company's account, producing \$385 net. (This is after deducting all charges for smelting, &c.)

MEETINGS of the Accidents in Mines Commission were held on Monday and Tuesday at the offices, 2, Victoria-street, Westminster. There were present—the Chairman, Mr. Warrington W. Smyth, Sir Frederick Abel, Mr. Thomas Burt, M.P., Professor Clifton, Sir George Eliot, Sir William Thomas Lewis, and Mr. Lindsay Wood.

A MEETING of shareholders in the Anglo-Mexican Mining Company was held on Tuesday at the Cannon-street Hotel; but for reasons best known to the officials of the company, the Press was rigidly excluded. The public will know that in the case of the Anglo-Mexican Mining Company it is deemed expedient to sit with closed doors, and will draw their conclusions accordingly.

THE works of the Sandycroft Foundry and Engineworks Company (Limited), near Hawarden, have just been fitted up with the electric light by the Maxim-Weston Electric Company. The Sandycroft Company have a wide reputation as makers of mining and colliery machinery of the highest class; one of their specialities is the manufacture of machinery for gold mines, including stamps for crushing the quartz, pans, settlers, &c., required for carrying out the process of amalgamation, and also all the accessories. This firm has been fully employed during the current year, and they have found it necessary to improve the light in their larger shops so as to facilitate the handling of the heavier pieces of machinery. The company, therefore, decided to adopt the electric light, and placed the matter in the hands of the Maxim-Weston Company, who have now completed the work. An exhibition of the light was given on Friday night, December 11, in the presence of a distinguished company, including Lord Wolverton, Mr. Herbert Gladstone, M.P., Mr. Hugh Watt, M.P., Mr. Henry N. Gladstone, Mr. Frank Taylor, Mr. H. E. Taylor, C.E., and others. The Right Hon. W. E. Gladstone, M.P., was prevented by important business being present. The lights were then run for two hours under the superintendence of Mr. J. J. Tough, works' manager to the Maxim-Weston Company, and gave a beautiful, bright, and steady light. After an inspection of more than an hour, before leaving Lord Wolverton and the other visitors, expressed themselves to Mr. Taylor as much gratified by their visit.

LEVANT has on two occasions successively paid a 10*s.* dividend. The agents hope to continue this satisfactory state of things. It will be observed from our report that Levant is the only mine returning copper—but copper as one of two minerals—making dividends in Cornwall. It is to be trusted the dividend of 10*s.* per share will not only be continued, but increased.

MR. LOUIS GOWANS has returned from the Gold Coast Mines, having "successfully accomplished the object of his expedition."

THE present comparatively satisfactory condition of the tin metal market evidently inspires confidence in new speculations, as shown by the incorporation of a mine in New Balleswidden, in the St. Just district. Balleswidden proper, in its time, was a great property, and conducted, to a material degree, to the prosperity of St. Just. In respect of New Balleswidden, however, it is thought that 15,000*l.* is too small an amount to ensure success. It may be remarked that it is understood locally that the gentlemen interested most as directors were connected with East Botallack, which was recently knocked, and of which sett New Balleswidden formed a part.

MR. GEORGE HOPKINS presided, on Tuesday, at the annual general meeting of the New Hoover Hill Gold Mining Company, and gave a very lucid explanation of the mine and its prospects. He exhibited a heavy bar of gold, which had just been received, at the same time remarking that, at one time, it was said that the company had no mine, or, at any rate, no gold in it. The report was adopted unanimously, and a dividend of 9*d.* per share was declared, making, with the interim dividend, a total distribution of 10 per cent. for the year. The future prospects of the mine seem decidedly good, and the Chairman expressed his belief that it will continue its position in the Dividend-paying List. The shareholders unanimously awarded to the Chairman 200 guineas for his services in protecting the interests of the company, and a further 100 guineas to Mr. Frecheville, the manager at the mine.

On Monday last the directors of Russell United laid before the shareholders a very satisfactory and encouraging report from Captain Bray, the manager. It will be found at length in the report of the meeting given in another column, and from this it will be seen that the 57 level, at Stephens' engine shaft, is opening up well for both tin and copper, and the indications in the other parts of the workings are favourable. As to surface work, large quantities of ground have been excavated and the new 12-head stamps are erected, also four new 16 ft. buddles with necessary slime pits, and all requisite masonry work completed. A 12 ft. water-wheel has been put up, and a tramroad laid down, and everything seems to be working well. Some excellent specimens of ore from the mine have been brought to London, and deposited at the office of Mr. Thomas Stephens, Threadneedle-street, the Chairman of the company; an inspection of these will well repay shareholders and others interested in mining in the district.

THE cultivation of cotton and cinchona on the estates of the Tambracherry Company has been carried on with success during the past 12 months, and the prospects of results from cinchona seem particularly hopeful and encouraging. At the meeting, on Monday, several shareholders were evidently anxious that the directors should not altogether lose sight of the fact that auriferous wealth is believed to exist on the estate. On behalf of the board it was stated that the directors do not intend at present that the company shall prosecute gold mining, but they will be happy to give facilities for other parties to do so.

THE London agents of the Kimberley Central Mining Company (Limited) have received the following telegram from the company's head office at Kimberley:—Week ending December 19—Blue ground hauled, 3200 loads; washed, 2950 loads; diamonds found, 3000 carats.

NOTICE is hereby given that the ordinary general meeting of the shareholders of the Kohinoor and Donaldson Consolidated Mining Company (Limited) will be held at Room 270, Bourse-buildings, 20, Bucklersbury, London, E.C., on Tuesday, the 29th day of December, 1885, at two o'clock in the afternoon, precisely, for the purpose of receiving and considering the report of the directors and statements of accounts, made up to the 31st day of December, 1884.

THE following circular has been issued by the directors of the Indian Gold Mines Company of Glasgow:—To the Shareholders.—In consequence of rumours which have lately been in circulation as to a crushing of quartz from this company's mines, the directors consider it advisable to make the following communication to the shareholders:—Mr. McAlpine recently sent home some pieces of quartz weighing in all about 35 lbs. These were crushed and assayed by a firm of assayers in Glasgow. The assay showed—

Gold ..... 10.90 ozs. per ton of quartz.  
Silver ..... 0.50  
In order to check the correctness of this return, the directors have had an assay of the same quartz made by Messrs. Johnson, Matthey, and Co., London, who certify the result to be—  
Gold ..... 8.50 ozs. per ton of quartz.  
Silver ..... 1.25

In the letter advising the despatch of the quartz, Mr. McAlpine says: "I have sent a box of quartz to your address, containing a piece of quartz from the bottom of shaft, 26 ft. below the floor of Upper Hamlin Tunnel, some quartz from the end of south drive Skull reef, and some from north drive of the same—all from the most important parts of the mines being worked on at present." As the pieces from the respective localities above mentioned could not be distinguished, the quartz was, on arrival here, crushed in one lot and then assayed. The Glasgow firm of assayers, in sending the certificate of their assay, write as follows:—"The quartz is specially rich in auriferous sulphurets, and as this class of material is very difficult to treat by amalgamation (the presence of so much sulphur and arsenic 'sickening' the mercury and causing great loss of gold), would respectfully suggest your instructing your people in India simply to concentrate the ore by 'jigging,' or washing, and send here the concentrates for treatment. . . . The samples received from you contained no free gold, and, assuming you have a large quantity, the only reliable method you can employ in getting all the gold contents is that of smelting." The directors have instructed Mr. McAlpine to send home 1 ton of concentrates for treatment here. In giving the foregoing information, the directors have placed the whole facts known to them before the shareholders, but they would observe that an assay of 35 lbs. of quartz can hardly be accepted as a reliable indication of the richness of the reef as a whole.—By order of the directors, T. A. CRAIG, Secretary.

139, St. Vincent-street, Glasgow, December 22, 1885.

WE are requested to draw attention to an announcement in our advertisement columns cautioning the public against the notion that stockbrokers who are in the habit of advertising are members of the Stock Exchange. As a matter of fact, the latter are not permitted to advertise for business purposes or to issue circulars to persons other than their own principals. Lists of members of the London Stock Exchange, who act as stock and share brokers, may be obtained on application to the secretary to the committee.

The Agent-General for New South Wales has received a telegram from Sydney informing him of the formation of a new Ministry:—Premier and Colonial Secretary, the Hon. Sir John Robertson, K.C.M.G.; Colonial Treasurer, the Hon. J. S. Burns; Attorney-General, the Hon. G. B. Simpson; Secretary for Land, the Hon. G. Spring; Secretary of Public Works, the Hon. J. Garrard; Minister of Public Instruction, the Hon. J. H. Young; Minister of Justice, the Hon. L. F. Heydon; Postmaster-General, the Hon. Daniel O'Connor; Secretary for Mines, the Hon. R. M. Vaughan.



# STOCK AND SHARE LIST.

## BRITISH DIVIDEND MINES.

| Shares.                                    | Paid.   | Last wk. | Clos. pr. | Total divs. | Per Sh. | Last pd. |
|--|---------|----------|-----------|-------------|---------|----------|
| 12000 Bedford Unit, c, Tavistock (2111ab.) | 0 14 0  | 3 1/2    | 3 1/2     | 0 3 0       | 0 0 0   | 0 0 0    |
| 6000 Carn Brea, c, t, Illogan              | 15 5 0  | 3 1/2    | 3 1/2     | 52 11 0     | 0 0 0   | 0 0 0    |
| 10240 Devon Consols, c, t, Tavistock       | 1 0 0   | 2 1/2    | 2 1/2     | 118 7 0     | 0 0 0   | 0 0 0    |
| 4700 Delectable, c, t, Camborne            | 10 14 0 | 7 1/2    | 7 1/2     | 45 14 0     | 0 0 0   | 0 0 0    |
| 12000 East Pool, c, t, Illogan             | 0 9 0   | 4 0      | 4 0       | 45 11 0     | 0 0 0   | 0 0 0    |
| 12000 Great Holway, c, t, Illogan          | 0 0 0   | 1 1/2    | 1 1/2     | 0 12 0      | 0 0 0   | 0 0 0    |
| 14000 Great Laxey, c, t, Illogan           | 0 0 0   | 1 1/2    | 1 1/2     | 0 12 0      | 0 0 0   | 0 0 0    |
| 14000 Green Hurth, c, t, Illogan           | 0 0 0   | 1 1/2    | 1 1/2     | 0 12 0      | 0 0 0   | 0 0 0    |
| 14000 Isle of Man, c, t, Illogan           | 0 0 0   | 1 1/2    | 1 1/2     | 0 12 0      | 0 0 0   | 0 0 0    |
| 6000 Killfret, c, t, Chacewater            | 4 13 0  | 5 1/2    | 5 1/2     | 33 12 0     | 0 0 0   | 0 0 0    |
| 20000 Leadhills, c, t, Lanarkshire         | 0 0 0   | 2 1/2    | 2 1/2     | 110 6 0     | 0 0 0   | 0 0 0    |
| 25000 Levant, c, t, St. Just               | 11 5 0  | 2 1/2    | 2 1/2     | 0 2 0       | 0 0 0   | 0 0 0    |
| 4000 Liburne, c, t, Cardiganshire          | 18 15 0 | 0 0      | 0 0       | 615 10 0    | 0 0 0   | 0 0 0    |
| 10000 Mellanear, c, t, Hayle               | 2 0 0   | 1 1/2    | 1 1/2     | 2 4 0       | 0 0 0   | 0 0 0    |
| 10000 Minera Mining Co., c, t, Wrexham     | 5 0 0   | 7 5      | 7 5       | 69 14 0     | 0 0 0   | 0 0 0    |
| 10000 Mining Co. of Ireland, c, t, c, t    | 7 0 0   | 1 1/2    | 1 1/2     | 24 1 0      | 0 0 0   | 0 0 0    |
| 1829 North Hendre, c, t, Wales             | 2 10 0  | 0 0      | 0 0       | 3 18 0      | 0 0 0   | 0 0 0    |
| 8146 Ditto                                 | 1 7 0   | 0 0      | 0 0       | 0 11 3      | 0 0 0   | 0 0 0    |
| 12000 Phoenix United, c, t, Llanthornes    | 6 8 0   | 1 1/2    | 1 1/2     | 17 7 0      | 0 0 0   | 0 0 0    |
| 12000 Roman Gravel, c, t, Salop            | 7 10 0  | 5 1/2    | 5 1/2     | 12 1 0      | 0 0 0   | 0 0 0    |
| 6122 South Down, c, t, Cardigan            | 11 0 0  | 1 1/2    | 1 1/2     | 4 0 0       | 0 0 0   | 0 0 0    |
| 9000 South Down, c, t, Cardigan            | 11 0 0  | 1 1/2    | 1 1/2     | 4 0 0       | 0 0 0   | 0 0 0    |
| 6000 Tincroft, c, t, Pool, Illogan         | 14 18 0 | 5 1/2    | 5 1/2     | 51 3 0      | 0 0 0   | 0 0 0    |
| 4200 West Basset, c, t, Illogan            | 6 3 4   | 3 1/2    | 3 1/2     | 28 3 0      | 0 0 0   | 0 0 0    |
| 6000 West Basset, c, t, Illogan            | 0 12 0  | 7 1/2    | 7 1/2     | 5 8 0       | 0 0 0   | 0 0 0    |
| 6144 Wheel Agar, c, t, Illogan             | 19 6 0  | 20 19    | 20 19     | 2 12 0      | 0 0 0   | 0 0 0    |
| 12000 Wheel Ore, c, t, Illogan             | 8 0 0   | 5 1/2    | 5 1/2     | 0 2 0       | 0 0 0   | 0 0 0    |
| 10240 Wheel Eliza Consols, c, t, Austell   | 2 4 0   | 1 1/2    | 1 1/2     | 1 3 0       | 0 0 0   | 0 0 0    |
| 6000 Wheel Grenville, c, t, Camborne       | 15 12 0 | 17 18    | 17 18     | 3 10 0      | 0 0 0   | 0 0 0    |
| 4295 Wheel Killy, c, t, St. Agnes          | 5 12 0  | 1 1/2    | 1 1/2     | 12 18 0     | 0 0 0   | 0 0 0    |
| 3000 Wheel Peavor, c, t, Redruth           | 2 2 0   | 3 1/2    | 3 1/2     | 9 3 0       | 0 0 0   | 0 0 0    |

## FOREIGN DIVIDEND MINES.

| Shares.   | Paid.   | Last wk.                        | Clos. pr.                       | Total divs.   | Per Sh. | Last pd. |
|---|---------|---------------------------------|---------------------------------|---------------|---------|----------|
| 30000 Alamos, c, t, Spain                                 | 2 0 0   | 1 1/2                           | 1 1/2                           | 2 19 5        | 0 0 0   | 0 0 0    |
| 20000 Almaden, c, t, Spain                                | 1 0 0   | 4 1/2                           | 4 1/2                           | 0 6 3         | 0 0 0   | 0 0 0    |
| 15000 Australian, c, t, Australia                         | 7 7 0   | 2 1/2                           | 2 1/2                           | 113 0 0       | 0 0 0   | 0 0 0    |
| 30000 Brabazon, c, t, California                          | 4 0 0   | 1 1/2                           | 1 1/2                           | 113 0 0       | 0 0 0   | 0 0 0    |
| 130000 Californian, c, t, California                      | 2 0 0   | 4 1/2                           | 4 1/2                           | 0 4 1/2       | 0 0 0   | 0 0 0    |
| 20000 Cape Copper, c, t, South Africa                     | 8 0 0   | 2 1/2                           | 2 1/2                           | 52 5 0        | 0 0 0   | 0 0 0    |
| 65000 Colorado United, c, t, Colorado                     | 3 13 0  | 3 1/2                           | 3 1/2                           | 21 1 0        | 0 0 0   | 0 0 0    |
| 50000 Copiapo, c, t, Chile                                | 3 13 0  | 3 1/2                           | 3 1/2                           | 21 1 0        | 0 0 0   | 0 0 0    |
| 32200 El Callao, c, t, Venezuela                          | 40 0 0  | 52 51                           | 52 51                           | 43 17 0       | 0 0 0   | 0 0 0    |
| 70000 English & Australian, c, t, S. Aust.                | 210 0 0 | 0 0                             | 0 0                             | 3 2 9         | 0 0 0   | 0 0 0    |
| 72000 Frontino, c, t, Spain                               | 2 0 0   | 3 1/2                           | 3 1/2                           | 9 0 0         | 0 0 0   | 0 0 0    |
| 400000 La Florida, c, t, Bolivia, c, t, New Gran.         | 2 0 0   | 11 1/3                          | 11 1/3                          | 0 12 0        | 0 0 0   | 0 0 0    |
| 100000 La Trinidad, c, t, Leadville                       | 1 0 0   | 8 1/2                           | 8 1/2                           | 0 6 0         | 0 0 0   | 0 0 0    |
| 15000 Linars, c, t, Sonora, Mexico                        | 5 0 0   | 4 3/4                           | 4 3/4                           | 0 10 0        | 0 0 0   | 0 0 0    |
| 20000 Marbella Iron Ore, c, t, Spain                      | 3 0 0   | 5 4 1/2                         | 5 4 1/2                         | 20 0 0        | 0 0 0   | 0 0 0    |
| 150000 Mason & Barry, c, t, Portugal                      | 10 0 0  | 2 1/2                           | 2 1/2                           | 0 10 0        | 0 0 0   | 0 0 0    |
| 330000 Montana, c, t, U.S.A.                              | 2 0 0   | 3 1/2                           | 3 1/2                           | 0 2 0         | 0 0 0   | 0 0 0    |
| 120000 New Albion, c, t, Nova Scotia                      | 1 0 0   | 1 1/2                           | 1 1/2                           | 0 2 0         | 0 0 0   | 0 0 0    |
| 125000 New Hoover Hill, c, t, North Carolina              | 10 0 0  | 1 1/2                           | 1 1/2                           | 0 3 0         | 0 0 0   | 0 0 0    |
| 800000 Quebrada, c, t, Nova Scotia                        | 0 4 0   | 3 1/2                           | 3 1/2                           | 0 1 3/4       | 0 0 0   | 0 0 0    |
| 500000 Pamplico, c, t, Chile                              | 10 0 0  | 3 1/2                           | 3 1/2                           | 0 6 per cent. | 0 0 0   | 0 0 0    |
| 250000 Pitangui, c, t, Brazil (in 8000 £1 pd.)            | 0 18 0  | 2 1/2                           | 2 1/2                           | 2 9 0         | 0 0 0   | 0 0 0    |
| 14000 Pontgibaud, c, t, France                            | 20 0 0  | 4 1/2                           | 4 1/2                           | 30 3 1        | 0 0 0   | 0 0 0    |
| 100000 Port Phillip, c, t, Clunes                         | 1 0 0   | 3 1/2                           | 3 1/2                           | 14 2 0        | 0 0 0   | 0 0 0    |
| 50000 Rara Fortuna, c, t, Argent. Republic                | 1 0 0   | 4 1/2                           | 4 1/2                           | 0 3 0         | 0 0 0   | 0 0 0    |
| 25000 Richmond Consol., c, t, Nevada                      | 5 0 0   | 4 1/2                           | 4 1/2                           | 15 6 0        | 0 0 0   | 0 0 0    |
| 25000 Rio Tinto, c, t, Mortgage Bonds, Huvela             | 100 0 0 | 102 100                         | 102 100                         | 5 per cent.   | 0 0 0   | 0 0 0    |
| 12000 Ditto, shares                                       | 10 0 0  | 11 1/2                          | 11 1/2                          | 5 2 0         | 0 0 0   | 0 0 0    |
| 250000 Santa Barbara, c, t, Brazil                        | 10 0 0  | 93 91                           | 93 91                           | 5 per cent.   | 0 0 0   | 0 0 0    |
| 120000 Schwabach, c, t, Kimberley                         | 10 0 0  | 1 1/2                           | 1 1/2                           | 0 12 0        | 0 0 0   | 0 0 0    |
| 120000 Scottish-Australian Mining Co.                     | 10 0 0  | 3 1/2                           | 3 1/2                           | 20 0 0        | 0 0 0   | 0 0 0    |
| 80000 Ditto, New  | 10 0 0  | 1 1/2                           | 1 1/2                           | 20 0 0        | 0 0 0   | 0 0 0    |
| 125000 Sierra Buttes, c, t, California                    | 2 0 0   | 1 1/2                           | 1 1/2                           | 3 0 0         | 0 0 0   | 0 0 0    |
| 125000 Silver Queen, c, t, Sonora, Mex.                   | 2 0 0   | 2 1/2                           | 2 1/2                           | 0 2 0         | 0 0 0   | 0 0 0    |
| 250000 John de Rey, c, t, (45 Stock and multiple deal in) | 65 70   | 5 p.c. for half-year, June 1885 | 5 p.c. for half-year, June 1885 | 0 6 0         | 0 0 0   | 0 0 0    |
| 140000 Toller, c, t, Colombia (As shares)                 | 5 0 0   | 5 3 4                           | 5 3 4                           | 6 2 0         | 0 0 0   | 0 0 0    |
| 129522 United Mexican, c, t, Mexico                       | 9 16 0  | 3 1/2                           | 3 1/2                           | 1 5 3         | 0 0 0   | 0 0 0    |
| 25000 Victoria, c, t, London                              | 9 16 0  | 3 1/2                           | 3 1/2                           | 1 5 3         | 0 0 0   | 0 0 0    |
| 50000 Violeto, c, t, Spain                                | 1 0 0   | 1 1/2                           | 1 1/2                           | 0 1 0         | 0 0 0   | 0 0 0    |
| 15000 Western Andes, c, t, Colombia                       | 5 0 0   | 4 1/2                           | 4 1/2                           | 4 16 3        | 0 0 0   | 0 0 0    |
| 2100 W. Prussian (5000 pref. sh. £10 pd.)                 | 10 0 0  | 4 1/2                           | 4 1/2                           | 4 2 0         | 0 0 0   | 0 0 0    |
| 51800 York Fen, c, t, South Aust. Pref.                   | 1 0 0   | 3 1/2                           | 3 1/2                           | 0 3 0         | 0 0 0   | 0 0 0    |

Have made calls since last dividend paid.

## NON-DIVIDEND BRITISH MINES.

| Shares.   | Paid.   | Last wk. | Clos. pr. |
|---|---------|----------|-----------|
| 12000 Anderton, c, t, c, t, Devonshire            | 0 8 0   | 1 1/2    | 1 1/2     |
| 12000 Asheton, c, t, c, t, Devonshire             | 5 0 0   | 0 0      | 0 0       |
| 3200 Blue Hills, c, t, St. Agnes                  | 4 18 0  | 1 1/2    | 1 1/2     |
| 10000 Brad, c, t, c, t, Devonshire                | 1 0 0   | 0 0      | 0 0       |
| 10000 British, c, t, c, t, Devonshire             | 1 0 0   | 0 0      | 0 0       |
| 20000 British Manganese Company                   | 1 0 0   | 0 0      | 0 0       |
| 10000 Burnhope, c, t, c, t, Devonshire            | 0 10 0  | 2 1/2    | 2 1/2     |
| 50000 Cambrian, c, t, c, t, Devonshire            | 2 0 0   | 0 0      | 0 0       |
| 50000 Carn Camborne, c, t, c, t, Devonshire       | 1 0 0   | 0 0      | 0 0       |
| 37500 Carnarvonshire Cons., c, t, Llanrwst        | 2 0 0   | 0 0      | 0 0       |
| 6400 Cashwell, c, t, c, t, Devonshire             | 2 19 0  | 1 1/2    | 1 1/2     |
| 10000 Central Foxdale, c, t, c, t, Devonshire     | 0 17 0  | 0 0      | 0 0       |
| 300000 Clifford Amalgamated                       | 1 0 0   | 1 1/2    | 1 1/2     |
| 25000 Coed-y-Fedw & Pant-y-Buarth, c, t           | 1 0 0   | 1 1/2    | 1 1/2     |
| 24500 Cook's Kitchen, c, t, Illogan               | 43 0 0  | 10 8     | 10 8      |
| 3207 Craven Moor Unit, c, t, Pateley Edge         | 1 17 0  | 10 8     | 10 8      |
| 30000 Cresswell, c, t, c, t, Devonshire           | 1 17 0  | 10 8     | 10 8      |
| 36400 Crook Burn, c, t, c, t, Devonshire          | 0 17 0  | 10 8     | 10 8      |
| 55000 Cumberland Lead                             | 1 0 0   | 1 1/2    | 1 1/2     |
| 12000 D'Eresby, c, t, c, t, Devonshire            | 1 0 0   | 1 1/2    | 1 1/2     |
| 60000 Devon Friendship, c, t, c, t, Devonshire    | 1 0 0   | 1 1/2    | 1 1/2     |
| 50000 Drake Wells, c, t, c, t, Devonshire         | 0 16 0  | 1 1/2    | 1 1/2     |
| 50000 Dunchy Peru, c, t, c, t, Devonshire         | 1 0 0   | 1 1/2    | 1 1/2     |
| 12000 East Blue Hills, c, t, St. Agnes            | 0 7 0   | 1 1/2    | 1 1/2     |
| 6000 East Botallack, c, t, St. Just               | 1 2 0   | 0 0      | 0 0       |
| 6144 East Caradon, c, t, c, t, Devonshire         | 5 7 0   | 0 0      | 0 0       |
| 15000 East Devon Cons., c, t, c, t, Devonshire    | 2 0 0   | 0 0      | 0 0       |
| 6000 East Tregembo, c, t, c, t, Devonshire        | 0 6 5   | 3 1/2    | 3 1/2     |
| 2048 East Wheal Lovell, c, t, Helston             | 0 3 5   | 3 1/2    | 3 1/2     |
| 25000 Ecton, c, t, c, t, Devonshire               | 1 0 0   | 1 1/2    | 1 1/2     |
| 12500 Frongoch, c, t, c, t, Devonshire            | 2 0 0   | 1 1/2    | 1 1/2     |
| 12000 Gawton, c, t, Tavistock                     | 2 0 0   | 3 1/2    | 3 1/2     |
| 4000 Glasgow, c, t, c, t, Devonshire              | 150 0 0 | 1 1/2    | 1 1/2     |
| 30000 Gobbett, c, t, c, t, Devonshire             | 1 0 0   | 0 0      | 0 0       |
| 10000 Goddards, c, t, c, t, Devonshire            | 1 0 0   | 0 0      | 0 0       |
| 32000 Goginan, c, t, c, t, Devonshire             | 1 0 0   | 0 0      | 0 0       |
| 25000 Goodfellow, c, t, c, t, Devonshire          | 0 0 0   | 1 1/2    | 1 1/2     |
| 6000 Great West Chiverton, c, t, St. Agnes        | 0 0 0   | 1 1/2    | 1 1/2     |
| 50000 Great W. Shepherds, c, t, Cornwall          | 1 0 0   | 1 1/2    | 1 1/2     |
| 20000 Grogwin, c, t, c, t, Devonshire             | 2 0 0   | 1 1/2    | 1 1/2     |
| 50000 Gwynn, c, t, c, t, Devonshire               | 2 0 0   | 1 1/2    | 1 1/2     |
| 9300 Gunnalake (Clitters), c, t, c, t, Devonshire | 2 4 0   | 3 1/2    | 3 1/2     |
| 8400 Hardshill, c, t, c, t, Devonshire            | 0 7 0   | 1 1/2    | 1 1/2     |
| 15000 Holywell District, c, t, Flintshire         | 1 0 0   | 1 1/2    | 1 1/2     |
| 15000 Lady Ann, c, t, c, t, Devonshire            | 1 0 0   | 0 0      | 0 0       |
| 15000 Llandegla, c, t, c, t, Devonshire           | 1 0 0   | 0 0      | 0 0       |
| 5120 Lovell, c, t, c, t, Devonshire               | 2 1 0   | 3 1/2    | 3 1/2     |
| 9000 Marke Valley, c, t, c, t, Devonshire         | 8 0 0   | 2 1/2    | 2 1/2     |
| 20000 Moxton Consols, c, t, c, t, Devonshire      | 1 0 0   | 0 0      | 0 0       |
| 6144 Mount Carbis, c, t, c, t, Devonshire         | 1 19 0  | 2 1/2    | 2 1/2     |
| 12000 New Caradon, c, t, c, t, Devonshire         | 0 8 3   | 3 1/2    | 3 1/2     |
| 24000 New Cook's Kitchen, c, t, Illogan           | 11 3 0  | 1 1/2    | 1 1/2     |
| 8000 New Dolcoath, c, t, c, t, Devonshire         | 3 0 0   | 0 0      | 0 0       |
| 10000 New Holmbush, c, t, c, t, Devonshire        | 4 0 0   | 0 0      | 0 0       |
| 6000 New Killy, c, t, c, t, Devonshire            | 1 15 0  | 1 1/2    | 1 1/2     |
| 25000 New Langford, c, t, c, t, Devonshire        | 0 5 0   | 3 1/2    | 3 1/2     |
| 15000 New Redmoor, c, t, c, t, Devonshire         | 1 0 0   | 0 0      | 0 0       |
| 17500 New Teras, c, t, c, t, Devonshire           | 2 0 0   | 2 1/2    | 2 1/2     |
| 3500 New Tincroft, c, t, c, t, Devonshire         | 8 0 0   | 0 0      | 0 0       |
| 12000 New Trevelick, c, t, c, t, Devonshire       | 1 0 0   | 1 1/2    | 1 1/2     |
| 20000 New Van Con, c, t, c, t, Devonshire         | 8 0 0   | 0 0      | 0 0       |
| 30000 New West Caradon, c, t, c, t, Devonshire    | 0 9 3   | 3 1/2    | 3 1/2     |
| 3000 New Wheal Peavor, c, t, c, t, Devonshire     | 0 10 0  | 0 0      | 0 0       |
| 12000 North Blue Hills, c, t, St. Agnes           | 0 2 6   | 2 1/2    | 2 1/2     |
| 5328 North Busy, c, t, c, t, Devonshire           | 2 6 8   | 2 1/2    | 2 1/2     |
| 10000 N. D'Eresby Mount, c, t, c, t, Devonshire   | 1 0 0   | 0 0      | 0 0       |
| 50000 North Goginan, c, t, c, t, Devonshire       | 1 0 0   | 0 0      | 0 0       |
| 6400 North Green Hurth, c, t, c, t, Devonshire    | 1 0 0   | 1 1/2    | 1 1/2     |

## NON-DIVIDEND MINES—continued.

| Shares. |   | Paid.   | Last wk. | Clos. pr. |
|---------|---|---------|----------|-----------|
| 5000    | North Grogwin, * s, l, Cardiganh.         | 1 0 0   | 1 1/2    | 1 1/2     |
| 2000    | North Levant, t, c, St. Just              | 15 13 0 | 0        | —         |
| 5000    | North Molton, * c, m, t, Devon            | 1 0 0   | —        | —         |
| 6500    | North Treaskerby, * c, St. Agnes          | 1 0 0   | —        | —         |
| 30000   | Par. * s, St. Austell                     | 1 0 0   | 1 1/2    | 1 1/2     |
| 8000    | Pedn-an-dres, t, Redruth                  | 2 2 0   | 1        | 3/4       |
| 20000   | Penegareg, t, Carnmarthenshire            | 1 0 0   | —        | —         |
| 10000   | Polberro, t, St. Agnes                    | 0 6 0   | 2 1/2    | 2 1/2     |
| 10000   | Polcrebo, t, Crown                        | 0 15 9  | 2 1/2    | 1 1/2     |
| 10000   | Port Nigel, s, * s, l, Carnar. (4000 is.) | 1 15 0  | —        | —         |
| 19000   | Pr. Patrick, * t, (ale. 12000 p. 10 p.c.) | 1 0 0   | —        | —         |
| 12000   | Prince of Wales, t, c, t, Calstock        | 1 7 0   | 9 1/2    | 8 1/2     |
| 12000   | Prince Royal                              | 0 2 6   | 8 1/2    | 4 1/2     |
| 35000   | Russell United, * c, Tavistock            | 0 9 6   | 3 1/2    | 3 1/2     |
| 30000   | Silver Hill, * Callington                 | 1 0 0   | 3 1/2    | 3 1/2     |
| 5000    | Sinclair, * t, l, Whitford                | 1 0 0   | 3 1/2    | 3 1/2     |
| 4000    | Sortridge, c, Horrabridge                 | 1 0 0   | —        | —         |
| 50000   | South Caradon, * c, St. Cleer             | 1 0 0   | 3 1/2    | 3 1/2     |
| 6000    | South Carbis, t, c, Redruth               | 0 10 0  | 1 1/2    | 1 1/2     |
| 6000    | South Kitty, t, St. Agnes                 | 0 10 0  | 1 1/2    | 1 1/2     |
| 6000    | South Penwith, t, c, Gwennap              | 4 2 6   | 3 1/2    | 3 1/2     |
| 30000   | So. Phoenix & Caradon, * c, Linkinh.      | 1 0 0   | 3 1/2    | 3 1/2     |
| 6000    | South Tolcarne, t, c, Camborne            | 5 11 6  | 3 1/2    | 3 1/2     |
| 2043    | South Wheel Crofty, c, Illogan            | 9 14 6  | 7 1/2    | 6 1/2     |
| 4500    | South Wheel Frances, t, Illogan           | 11 4 0  | 7 1/2    | 6 1/2     |
| 30000   | Standard, * t, l, Llanrwst                | 1 0 0   | 2        | 1 1/2     |
| 40000   | Tamar, s, l, Beaulaton*                   | 1 0 0   | 3 1/2    | 3 1/2     |
| 4000    | Tindene                                   | 3 3 0   | 2 1/2    | 2 1/2     |
| 6000    | Tolgulough United, St. Day                | 1 0 0   | 1 1/2    | 1 1/2     |
| 12000   | Trebartha Lemanne, t, Northill            | 0 11 6  | —        | —         |
| 50000   | Tregontres and Old Polgooth Con.          | 1 0 0   | 3 1/2    | 3 1/2     |
| 700     | Trevaunance, t, St. Agnes                 | 0 15 0  | 2 1/2    | 2 1/2     |
| 1000    | Vaughan, * t, Cardiganshire               | 10 0 0  | —        | —         |
| 15000   | Van, * t, Llandudno                       | 0 10 0  | 1 1/2    | 1 1/2     |
| 50000   | Weardale, * t, Northumber. (4l. share)    | 1 5 0   | 1 1/2    | 1 1/2     |
| 12000   | West Caradon, c, St. Cleer                | 0 13 6  | 3 1/2    | 3 1/2     |
| 30000   | West Cornwall, t, Cornwall                | 1 0 0   | 1 1/2    | 1 1/2     |
| 10240   | West Devon Consols, c, Calstock           | 1 2 0   | 1 1/2    | 1 1/2     |
| 10000   | West Godolphin, t, Breage                 | 1 7 6   | 1 1/2    | 1 1/2     |
| 12000   | West Gonanena, c, St. Cleer               | 0 1 0   | —        | —         |
| 3000    | West Mary Ann, t, Menheniot               | 1 18 0  | 3 1/2    | 3 1/2     |
| 12000   | West Phenix, t, Linkinhorne               | 1 10 6  | 3 1/2    | 3 1/2     |
| 6000    | West Polbreen, f, c, St. Agnes            | 0 12 0  | 14 1/2   | 12 1/2    |
| 8144    | West Wheel Frances, t, Illogan            | 14 10 1 | 9 1/2    | 8 1/2     |
| 3000    | West Wheel Peavor, t, Redruth             | 5 2 6   | 3 1/2    | 3 1/2     |
| 1200    | West Wheel Seton, c, Camborne             | 22 5 0  | 4 1/2    | 4 1/2     |
| 4000    | Wheel Benny, t, c, Latchley               | 0 0 0   | 7 1/2    | 7 1/2     |
| 50000   | Wheel Castle, c, t, St. Just              | 0 0 0   | 1        | 3/4       |
| 12000   | Wheel Conates, t, St. Agnes               | 0 12 0  | 2 1/2    | 1 1/2     |
| 2585    | W. Conf., & No. Treas., t, Gwennap        | 1 0 0   | 3 1/2    | 3 1/2     |
| 50000   | Wheel Elizabeth, * t, Cornwall            | 1 0 0   | —        | —         |
| 12000   | Wheel Lusk, t, Callington                 | 0 3 3   | 3 1/2    | 3 1/2     |
| 12000   | Wheel Metal and Flow, t, Breage           | 0 3 6   | 1        | 3/4       |
| 2000    | Wheel Owles, t, St. Just                  | 0 3 0   | —        | —         |
| 30000   | Wh. Silver & Lanteglos, * s, l, Cameid.   | 1 0 0   | 3 1/2    | 3 1/2     |
| 6000    | Wheel Sisters, t, Lelant                  | 4 17 6  | 3 1/2    | 3 1/2     |
| 2185    | Wye Valley, t, Montgomery.*               | 1 0 0   | —        | —         |
| 60000   | Yeoland Consols, * t, Devonshire          | 1 0 0   | 3 1/2    | 3 1/2     |
| 65000   | Yorkshire Lead Mines, l.                  | 1 0 0   | 12 1/2   | 10 1/2    |
| 4000    | Ystwith, * t, Cardigan                    | 1 0 0   | —        | —         |

bl, blende; c, copper; g, gold; l, lead; s, silver; sl, slate.  
s, l, silver-lead; t, tin; z, zinc; i, iron; a, arsenic; d, diamond.  
\* Limited Liability Companies; t quoted on the Stock Exchange.

I have paid dividends.



## Trade Reports.

## CORNWALL.

December 23.—This is, of course, a holiday week, and one in which therefore it would have been idle to expect any great developments in the way of business. We do not attach any importance to the present position of affairs in any way, believing that it will not be long before the few untoward indications of which too much has already been made will disappear. Next week we hope to be able to present our usual summary of the year, and to look forward to a revival of interest and prosperity.

We hinted last week that the County Committee on the question of Mine Leases seemed to be afraid of going too far; and we are sure that if the members have taken any particular pains to ascertain the course of public opinion, they must be aware by this time that that is not a very singular opinion. Their proposals are all very good so far as they go, but they certainly will not meet the actual necessities of the case. In some way or other the question of original leases will have to be faced. It is idle to talk of "free contract" under existing conditions. The lord may be, and is, free to grant or not as he pleases; but he can dictate the terms absolutely, and the gambling speculator has in many cases a far better chance than the legitimate investor. Our modern mining authorities seem to forget that the rights of the tin miner, at any rate, are equal to those of the lord, or were equal until they were without authority taken away. It is no innovation to resume what never ought to have been lost. Again, it is idle to imagine that mining will ever be placed upon a satisfactory basis, until a reform is effected in the Dues System. We admit all the difficulties; but we know that they will have to be faced and dealt with some day, and it is by far the best plan to deal with the whole business off hand. Our advice to the members of the County Committee would be that they should think these matters over between now and their next meeting, and then be prepared to grapple manfully with the whole question.

## TYNE AND WEAR.

December 24.—We have little change to notice in the state of the Coal and other trades here. There will be some activity in the shipment of steam coals this week, on account of next week's holidays. There is little or no change in the actual demand. The demand for steam coals is languid, but there is still a very brisk demand for steam small coals. The gas coalworks are generally fully employed, and the household coalworks in Durham are also fairly employed. There is a better prospect for the coke trade. One of the largest cokemakers has concluded a contract for the delivery of a large quantity to be supplied over 1886 for inland purposes. At Sunderland the activity in the coal trade is maintained, though prices continue low. There is no falling off in the demand for all sorts. The coal and coke shipments during the past week have been up to the average for the time of year. There are fair accounts of the progress of the salt mines on the Tees, and it is reported that some other salt consuming firms in the district are about to bore for salt in South Durham. The works of the Newcastle Chemical Company, at Cowpen Marsh, are enlarging the production of salt, and they have now six pans at work. It is expected that in another year or so all the salt required on the Tyne and Wear will be got from the great bed on the Tees.

MR. SWAN'S NEW PORTABLE ELECTRIC-LAMP FOR MINES.—We believe that Mr. Swan has done a good work in connection with this lamp. The light given out is about 2½ times the light given by ordinary safety-lamps, the principle of the lamp is correct and complete for the purpose. At the same time, we do not think that it is at all probable that the lamp can come into extensive use by miners in its present form; it is much too clumsy, too much weight. A miner must have a lamp handy, compact, and of moderate weight, one that he can carry about into every part of a mine without much exertion. Mr. G. B. Forster said that he had no objection to the principle of the lamp. He was quite satisfied with it, and the weight might be overcome, it might be sent into the workings in the coal wagons. But this is really seriously condemning the lamp in its present form, as a lamp that requires to be sent into the workings in the coal tubs can be of little practical use to the great body of miners. But Mr. Swan says that the weight of the lamp is in proportion to the amount of light it gives out, and that by reducing the amount of light the weight could be reduced considerably. We would, therefore, suggest that if the weight of the lamp can be reduced so as to approach the weight of the heaviest ordinary lamps now in use by reducing the amount of light to (say) 1½ that of the ordinary lamp it would be advisable to do this, as in its present form, as already observed, the lamp has little chance of being brought into general use. There is also another serious objection to the lamp in its present form; it is not suitable for trying for gas, and this is of course a very important point. Mr. Swan, however, states that he hopes to be able to produce a lamp which will be suitable for this purpose. Mr. Swan has certainly made considerable progress in this direction, and we may hope that ultimately he will be able to produce a lamp suitable in every respect for general use in coal mines. The coal and coke shipments at Tyne Dock for the week were as follows: Coal, week ending Dec. 19, 108,807 tons, about the same as the shipments in the corresponding week of last year. The coke shipments during the same period was 6548 tons, an increase of 432 tons. The coke shipments have shown an increase weekly for a long period.

We have often alluded in this letter to the fact that so little attention has been paid to the manufacture of patent fuel here, although the materials for this manufacture are plentiful and cheap. At Blyth works were erected for the purpose a few years ago, but after being worked some time they were for some reason closed. A considerable quantity of this fuel is however manufactured on the Wear at Sunderland, and at present the Bertley Iron and Coal Company are erecting works for this manufacture. Special machinery is being erected and four presses fitted up, each capable of working up to 50 tons per day; in the course of a short time the company will be able to turn out 200 tons of fuel, or bricks, per day. The coals will be first washed by steam power. The firm has extensive collieries in the vicinity and an ample supply of small coals suitable for the purpose, so that we may expect an important manufacture to be carried out here shortly.

There has been little done in the Iron Trade this week; everything will be kept on a restricted basis until after the Quarterly Meeting in January. There is still firmness for any business for next year. The leading makers adhere pretty firmly to late rates. The dull state of the Scotch markets, and the small delivery of pig-iron for shipment has caused some merchants to quote rather lower prices this week. There will be a very large addition to stocks this month, and this will have to some extent a depressing effect. Messrs. Connal's stock was on Friday 130,200 tons, an increase of 2671 tons in the week.

There is no improvement whatever in the Manufacturing Iron Trade, and the winter is evidently going to be a dull one for those engaged in that trade. The steel trade is rather quiet at present. Foundries are fairly busy. Shipbuilding, upon which so much depends in connection with the iron trade, has moved little yet.

In addition to the great amount of work in hand at the works of the Armstrong-Mitchell Company, it is expected that two cruisers will be ordered to be built there by the Spanish Government shortly. The rates of pig-iron have changed little, No. 3 being quoted 31s. 10½d. for prompt delivery, and other iron in proportion.

## SOUTH WALES.

December 24.—The Steam Coal Trade has been in a remarkable active state, as shippers wish to execute orders prior to the Christmas holidays. The Royal Mail Steam Packet Company gave out their contracts last week to several Cardiff firms, the largest order being secured by the Powell Duffryn Company, while some smaller contracts were given to Messrs. David Davies and Co., and the Dinas Coal Company. The amount of tonnage which arrived last week was 170,000 tons. The clearances at Cardiff consisted of 138,345 tons foreign, and about 25,000 coastwise, with 4912 tons patent fuel. Newport, 33,783 tons foreign, and 25,944 coastwise. Swansea, 16,085 tons foreign, with about 11,000 coastwise, with 2003 tons patent fuel. The house coal trade is remarkably good, and merchants find some difficulty in executing orders. The demand for small steam coal and patent fuel is fair at the present moment. After Thursday, the 24th, nothing will probably be done at the docks until Tuesday, the 29th inst.

There is no alteration to note in the steel and iron trades. Cardiff sent away last week 3145 tons of iron, and Newport 2126 tons to Kurrache, and 40 to Bilbao. The arrivals of iron ore consist of 8799 tons at Cardiff from Bilbao, and 1094 from other places; Newport received 9740 tons from Bilbao, and 6550 from other places. The stoppage of the Ystalyfera Tinsplate Works, if it take place, will cast a gloom over the district in which it is situated, especially after the stoppage of the Gurnos Works in the same valley. No doubt these stoppages will be but temporary, as the orders for next year are very great. Coke sheets are from 14s. 6d. to 15s.; Bessemer steel, 15s. to 15s. 6d.; Siemens' steels, 15s. 6d. to 16s.

## DERBYSHIRE AND YORKSHIRE.

December 24.—There has been increased activity in the mining districts during the week, in anticipation of the stoppage of mines and works consequent upon the holidays, for, as a rule, very little will now be done before the opening of the New Year. There has been a fair demand for house coal from the leading collieries in Derbyshire and the West Riding, but without any difference in price. A considerable tonnage has been put on to the Midland and Great Northern Railways for the London market, the merchants in which are not likely to have much more sent to them for a week to come, seeing that most of the lines are likely to be busy with the passenger traffic, and will let the minerals stand for a time. The advance in prices to the Metropolitan consumers, which took place when the frost set in so keenly, has since given way along with the thaw which followed, consequently Silkstones are being delivered at 23s. per ton, the pit prices ranging from 8s. 6d. to 10s. To the Eastern counties, as well as to Lincolnshire, more households have been sent, but in nearly all instances these are ordered at arranged prices. Of course, it is different as regards London, for a large proportion of the coal sent there is not ordered, but is sold on its arrival through agents. For this reason some old firms have declined of late years to send there. But the number of mineowners selling direct to consumers is likely to increase during the present year, and by their becoming their own merchants they will be able to obtain the profits of the middlemen, which at times are all there is, seeing that it is no unusual thing for colliery proprietors doing business with the Metropolis to sell without profit and even at a loss, and this is more especially the case in the summer months, although, as a rule, the wages paid to their miners are about the same. Steam coal, as regards Derbyshire, has not changed much, for whilst the railway companies have taken rather more to meet their requirements, which will now be about the heaviest, knowing that the collieries will be standing for some time, there has been no increase in what may be termed the outside demand. The collieries in the South Yorkshire district are in a different position having the advantage of some ports, within a comparatively easy distance of the mines. For the time of year a lesser quantity than usual has been sent to Hull for exportation, although the Baltic trade has closed for the season. The large port of Goole, which is being greatly improved, especially on the route to Hull, has also taken rather largely of late, and during the last few days several cargoes have been shipped for London, Gravesend, and other home ports. Something like an average has also gone to several of the districts in the West Riding and Lincolnshire where iron is produced. Gas coal has also gone off very well from nearly all parts of the Midland field, but in nearly all instances they are in accordance with contracts, so that the deliveries at this time are about the heaviest during the year. Some of the London gasworks have taken considerable quantities of late. Silkstone, large as well as nuts, are about the best adapted for making into gas, that from some places giving upwards of 11,000 ft. to the ton of coal, and of these a good deal have gone away. Small coal for engine and other purposes has only ruled in moderate request, whilst prices have not gone beyond the cost to the owners.

Mr. B. Pickard, M.P., the secretary of the Yorkshire Miners' Association, which has its headquarters at Barnsley, has suggested to the colliery-owners the advantage of having a sliding-scale for the regulation of miners' wages in the future. He also agrees to accept the present rate of payment as the basis of the scale. Some months ago he wanted a scale to be fixed taking for the basis 10 per cent. more than the wages then paid. At that time his present proposal would have been accepted, and there is no doubt it will be now. No doubt Mr. Pickard is now looking forward to his Parliamentary duties, and desires to have as little local agitation as possible during the session. He will, of course, be paid for his attendance some 400l. or 500l. a year by the miners, but it is more than probable that many of them will wish to have something for their money, seeing that the honour will be all on one side, and to the praise and glory of Mr. Pickard alone. He cannot well be in two places at one time, and the consequence is likely to be that there will be less agitation, and the men will be allowed to work in peace, and the mineowners freed from constant annoyance in the shape of demands that the executive of the Association know cannot be conceded, but which, at the same time, lead many of the men to believe that their paid agents are energetically working on their behalf. In this, however, there is more show than reality.

In Sheffield there has been more activity in most departments, this being what is termed "Bull week," when in ordinary good times the men have worked day and night up to Christmas week, so as to earn as much as possible to spend during the holidays, for work will not be resumed, as a rule, this side of 1885. In several departments which have been quiet for some time past the employers, knowing the position of their men, and the time they would be idle, gave out orders more freely than they would otherwise have done, so that some overtime was made, but by no means to the extent of some previous years. Several of the leading cutlery houses have kept the hands well going, so that stocks will in consequence be increased. The same is the case as regards edge tools; but in both of these branches there is every likeli-

hood of a considerable improvement at the commencement of the New Year. In Bessemer steel work has been tolerably good, seeing that railmakers are now doing well in the district, and have orders in hand as well that will last some time. In other descriptions of railway material a fair amount of business has also been done, and this includes axles, tyres, and cranks. In crucible steel not much change has taken place of late; but plates for shipbuilding, as well as heavy castings for marine machinery, are likely to be in active request before long. A fair quantity of the raw material has, however, been taken for joint wheels and axles, as well as for some kinds of mining tools. The ordinary railway wheel and axle branch has kept up very well, a good many being for exportation, whilst there has been a steady production of hoops and merchant iron. The engine and machine works have not had a busy time of it, but the railway wagon builders have worked very fairly of late on new work, as well as on repairs. The silver-plated and Britannia metal departments during the last month were not so busy as usual at the close of the year, the busiest time for them; but the past week has been decidedly better in every way.

## LANCASHIRE.

December 24.—There has been very little doing in the Iron Trade of this district during the past week, and practically business may now be considered as suspended until after the turn of the year. Works generally have been closed for the holidays, which in the case of some of the forges will extend over fully a fortnight, whilst at the engineering works the Christmas and New Year stoppages will extend over five or six days. In the place of buying users of iron have consequently been stopping deliveries on account of contracts, and where there has been any business done it has been simply for some special pressing requirements, and altogether apart from ordinary trade transactions. Prices nominally are firm at late rates. For delivery into the Manchester district quotations for Lancashire pig-iron remain at 39s. to 39s. 6d. less 2½, and for the better class Lincolnshire irons at 39s. to 40s. less 2½, with one or two district brands quoted at about 1s. under these figures.

The recent upward movement in hematites has been followed by a cessation of further enquiries, but makers still hold to about 53s. 6d. and 54s. less 2½ as the minimum for good foundry qualities delivered into the Manchester district.

In the manufactured iron trade makers report extremely little business offering, and where there are any enquiries for next year, which are very few, they are based upon the exceptionally low prices which have recently been taken to effect temporary sales, simply to keep works going for the time being, but for forward contracts makers are not disposed to quote anything under 57. 5s. for bars delivered into the Manchester district.

In the Coal Trade, except that a pressure of orders in anticipation of the usual stoppages of the pits for Christmas and New Year, which during the ensuing fortnight will extend over five or six days, has given a temporary briskness to the demand for house fire qualities, the general condition of trade continues only quiet. For iron making and manufacturing purposes there is no improvement in the demand, and for the lower qualities of fuel prices are barely being maintained at late rates; slack, which is a drug in the market being offered at less money. At the pit mouth best Wigan Arley still averages about 9s., with 9s. 6d. being got in a few exceptional cases; second qualities, 7s. 6d. to 8s.; ordinary Pemberton Four-feet, 7s. to 7s. 6d., with one or two special qualities fetching 8s.; common house fire coals, 5s. 6d. to 6s.; steam and forge coals, 5s. 3d. to 5s. 6d.; common burgs, 4s. to 4s. 3d.; best qualities, 4s. 6d. to 4s. 9d.; common slack, 2s. 3d. to 2s. 6d.; and best 3s. 6d. to 4s. per ton.

In the Shipping Trade there is only a moderate business being done, and for good ordinary steam coals it is difficult to get more than about 7s. 3d. per ton delivered at the High Level, Liverpool, or the Garston Docks.

## NORTH AND SOUTH STAFFORDSHIRE.

December 24.—The amount of new business in iron which has been placed since last report has been small. Buyers are bent upon waiting until the New Year comes in before operating. Prices of sheets vary greatly. 67. 5s. to 67. 10s. is quoted for singles; 67. 12s. 6d. to 67. 15s. for doubles, and 20s. additional for trebles. Bars are 77. 10s. down to 57. 10s., and hurdle bars may be had at as low as 57. 5s., and even 57. In the pig-iron trade stocks continue to accumulate at the furnaces, but this is only what had been anticipated, seeing that consumers at this season always largely curtail the receipt of deliveries. A lesser quantity of pig is also coming in from the Northampton, Derbyshire, Lincolnshire, and North Staffordshire districts at the moment. All-mine pigs keep at 55s. to 60s., and common cinder at 32s. 6d. up to 36s. 3d. The coal trade is without much alteration upon the week. Business upon Cannock Chase is not up to the average of the season, since the mild weather militates against any large demand. The present "list" prices of coal are:—Forge, 8s. per ton; furnace and household coal, 9s. 6d. and 10s.; steam (or locomotive) coal, 6s. 6d.; kibbles, 6s. and 7s. 6d.; slack, 4s., 4s. 6d., and 5s. per ton. Colliers' wages are at present 3s. 4d. and 2s. 8d. per day—thick and thin coal men respectively. An important conference of miners throughout Great Britain will take place under the auspices of the Miners' National Union, at Birmingham, from the 19th to the 23rd January. Mr. Thomas Burt, M.P., who will preside, will, it is expected, deliver an important address, and several questions affecting the comfort and safety of colliers will be discussed.

At Wolverhampton on Tuesday a joint court of the South Staffordshire Mines Drainage Arbitrators and Commissioners was held at the offices, Mr. H. J. Marten, M.E., the only arbitrator present, occupying the chair. The object of the meeting was to hear appeals against the draft award of the arbitrators for a mines drainage rate of 6d. per ton upon all minerals raised, subject to certain graduations, in the Old Hill district. Mr. J. E. Underhill (law clerk) stated, however, that no notices of appeal had been received, and the draft award was therefore formally confirmed. It was further agreed that on January 1st the award should be signed and made binding.

The Patent Shaft and Axletree Company, Wednesbury, has just deemed it necessary to reduce by 5 per cent. the wages of its 2000 or 3000 operatives. For some years the wages at the Patent Shaft Works have been 5 per cent. higher than in other South Staffordshire works, and the reduction will now enable the company to accept specifications which would otherwise fall into the hands of competing houses.

Messrs. FRY, JAMES, and Co., write under date December 23rd:—Copper: The price of Chilean has experienced some rather sharp fluctuations since our last, although the range has not exceeded 20s. per ton on cash g.o.b.s. The present value is about 10s. per ton higher than on this day fortnight. In other descriptions of raw copper the values have declined all round by about 17. per ton, whilst prices of manufactured have fallen 27. per ton.—Iron: There is no change in manufactured, but Scotch pig prices have declined nearly 1s. per ton.—Tin has fluctuated between 937. 10s. and 927. 10s. per ton in prices of fine foreign, and is to-day at 927. 15s. per ton. A moderate amount of business has been transacted daily.—Lead continues steady in value at late improvements.—Spelter is also steady.—Tin Plates are without feature.



## Law Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION—MONDAY, DECEMBER 21.

(Before Mr. Justice PEARSON.)

THE LYDNEY AND WIGPOOL IRON ORE COMPANY V. BIRD.

Mr. Justice PEARSON delivered judgment in this important case to-day. The hearing of the action occupied the court several days, and was reported in the *Mining Journal*. The plaintiff company it will be remembered sought to recover the sum of 10,800*l.*, which they alleged that the defendants, Mr. William Bird (deceased) and Mr. James Bird, had received from the vendors to the company, Messrs. Allaway, for promoting the company without having disclosed the transaction. The principal point *inter alia* of the defence was a denial of promotorship.

Mr. Higgins, Q.C., Mr. Montague Cookson, Q.C., and Mr. Bunting were the counsel for the plaintiffs; Mr. Giffard, Q.C., Mr. Swinfen Eady, and Mr. Daly for the defendants, Mr. James Bird; Mr. Cozens-Hardy, Q.C., and Mr. Buckley for the executors of Mr. William Bird.

Mr. HIGGINS, Q.C., moved on behalf of Mr. Samuel Fox and sundry other debenture-holders in the above company for the appointment of a receiver and manager. The learned counsel stated that Mr. Fox was the holder of 32 first series debentures of 100*l.* each, and 40 second series debentures of the same value per share. Upon the first of these debentures interest remained unpaid for nine months. It was proposed that a Mr. Stewart, a gentleman well-known in Gloucester, and who had been the general manager and secretary of the company, should be appointed. There was no opposition to the motion.

His LORDSHIP appointed Mr. Stewart conditionally upon proper security being given.

Mr. Justice PEARSON, in pronouncing judgment, said the plaintiffs in this action were the Lydney and Wigpool Company (Limited), and the defendants were Mr. William Bird and Mr. James Bird. Mr. William Bird had died since the institution of the action, but was represented, and in what he was going to say he should consider the case as if Mr. William Bird had not died. The action was brought by the company against Messrs. Bird, asking for a declaration that they had received 10,800*l.* as trustees of the company, and that they were therefore jointly and severally liable to account for and pay over the sum with interest at 5*l.* per cent. from the date of receipt. The question, shortly stated, was this—were Messrs. Bird and Co., and are they to be considered, promoters of this company? If they were, then they were liable, at all events, to pay back a part, if not the whole, of this sum. If they were not, then they were not liable to pay back any portion of it. The question was a very short one so stated, but it was by no means free from difficulty. Messrs. William and James Bird were large iron merchants, carrying on business in the City, and they were in partnership together in the year in which all these transactions took place—namely, in 1871. Mr. William Bird was the senior partner, the father of James Bird, and he was on the point of leaving the partnership, and he did leave it, on the 30th December in that year. The Lydney and Wigpool Iron Mines, which were the subject of the company, belonged in the spring of 1871 to three gentlemen named Allaway. They had a mortgage on the property to the West of England Bank for 40,000*l.*, and in addition to that they were considerably indebted to the bank, probably for another sum of 40,000*l.* In May of that year the bank became anxious for their money, and gave notice to the Allaways calling it in, and in June, it not having been paid back they gave notice that they intended to sell the property. The Allaways were anxious to prevent the property being sold, and, therefore, to get money to pay off the bank in such manner they best could. They tried through Messrs. Poole and Hughes, their solicitors, in several ways to obtain the money they wanted, and not succeeding they sent Messrs. Poole and Hughes to Bird and Co. to ask them what assistance they could render, and thereupon Bird and Co. proceeded to devise certain schemes. In the first instance there were three schemes proposed. One was to borrow the money from some quarter; the second was to float the company in which the Allaways should take all the shares, and for the 40,000*l.* which they wanted to be raised by debentures; both these schemes fell through. The third was the scheme eventually carried out, and was to float a company in the ordinary way. In the autumn of 1871, and especially in the months of October, November, and December of that year, Messrs. Bird and Company were engaged in preparing for and starting the company, which now existed and which purchased these mines. Messrs. Bird and Company alleged that all that they did was done by them simply as agents for the vendors, that they were not promoters of the company in any sense of the word, and that the 10,800*l.* which they received under the circumstances he, the learned Judge, would mention presently was received by them as payment for services rendered as agents to the vendors. On the other hand, it was said that they were interested in the company themselves, and besides being agents for the vendors they were agents for the company, and that it was as much their company as that of Messrs. Allaway, and that under these circumstances, according to the ordinary rule of this Court, they were trustees of the company at the time they received the sum of 10,800*l.*, and that they had no right to retain any greater portion of it than they could show to have been properly expended by them for the benefit of the company. The simple question was which of these two propositions was the right one. One of the points made against Messrs. Bird was this—that whereas originally they were to receive only 5000*l.* or thereabouts for their services to the vendors, that sum was afterwards increased to the sum in question, and that at or about the same time the price of the property to be sold to the company was raised from 90,000*l.* to 100,000*l.* In other words, the 10,800*l.* was paid out of money which came from the company, and not out of money which under any circumstances would have gone to the vendors. If that was so of course the result would be that they had put into their pockets money which would otherwise have remained in the exchequer of the company. If, on the contrary, the 100,000*l.* was the *bona fide* price agreed to be paid to the vendors without any regard to the sum to be paid to Messrs. Bird and Co., then the vendors were the persons who had paid the money, and it might be that Messrs. Bird and Co. were entitled to retain it. That was the first question for him to decide, and the conclusion which he had arrived at was the one he had expressed during the course of the argument—that there was no evidence whatever for connecting the increase in the price of the property with the increase of what was to be paid to the defendants. To his mind it was plain, having regard to all the transactions, and from the letters, especially those from Messrs. Allaway, that they were exceedingly anxious, as was natural, to get as large a sum as they could for the mines they were selling, and that the price was raised and fixed at 100,000*l.* in consequence of the remonstrance of Messrs. Allaway, and not with the desire of putting any part of that sum in the pockets of Messrs. Bird and Co. He thought it was clear that the idea of raising the price was Messrs. Allaway, and not that of the defendants. Although there was some difficulty in tracing the transactions, his conclusion was that 10,800*l.* was substituted for the 5000*l.* at a later date, when Messrs. Bird and Co. undertook the placing of the share capital of the company, and he thought, therefore, that the sound conclusion to be drawn was this, that the money was to be paid by the vendors out of the purchase money that they were to receive from the company, and that the company were not to pay any portion of it. If that were so, then the case undoubtedly came within the case of *Arkwright and Newpall*, which had been so much cited in that Court, in which the Court of Appeal held that, inasmuch as the purchase-money had not been loaded, the vendors had a right to apply it in any way they pleased. It had been also argued strongly that the vendors had done many things, showed that they were promoters, that they had taken upon themselves to get out the prospectus, &c., and had throughout acted as if they were masters of the situation, and had shown, therefore, that they were doing something in which they were persons interested. He (Mr. Justice Pearson), however, was at a loss to find any

evidence whatever to bear that out. To his mind it was their duty under these circumstances to do everything with regard to the prospectus which he could find that they did do. They were to have all the responsibility of it, and there was nothing improper in that, and it was their duty, being in London, and having the charge of the business to take care that the Articles of Memorandum were properly drawn, and to take care which they did that it was done in accordance with the law, and in the interests of their clients, and he did not think there was anything which showed they overstepped their duties as agents; there remained, however, another point which had been argued, and which had given him the most trouble. Messrs. Bird and Co. were to guarantee the shares, and, no doubt, whilst the thing was in progress they agreed with the Messrs. Allaway that they should have when the company was established the sale of the ore, and a commission upon it, and it certainly occurred to him that it might possibly be that that was enough to show that they had such an interest over and above their duty as agents to the vendors as to constitute them promoters of the company. This point was made all the stronger, because in a letter from Mr. James Bird to the Allaways of 19th December, which formed the final contract between them, it was as follows:—

"In consideration of our personal services it is also agreed that we shall also have the conduct and management of the business in our offices in London, our remuneration to consist of 2*l.* per cent. commission on the invoice amount of sales effected, and a fixed sum of 600*l.* a year for office rent, salaries, &c." And in another letter of the same date he said, with reference to the 600*l.* per annum, it little exceeded auditors' claims for remuneration, that there was little or nothing for William Bird and Company. "Please understand that commission on sales must be the principal remuneration for William Bird and Company." What he had to consider was whether or not that really made them something more than agents, and really promoters of the company. No doubt a very little would make people promoters of a company. If you could find that they were doing something merely at their own instance, and not as agents for other people; but he thought, considering all the circumstances, that they were undoubtedly the agents for the vendors, and, being in that position, were therefore entitled to be paid as agents, and that the bargain was simply this, that if the company was started through their services as agents for the vendors they should then be put in the Articles of Association, not as agents of the company, but simply with the right to have, at all events, the first chance of becoming the agents of the company. The remuneration, too, did not seem to him to be above the usual market price, and he thought that it would be too hard to hold that they were promoters of the company. It was curious that in the same purchase agreement Mr. Poole was the solicitor to the company, and it seemed to him that if he were to hold that the making of Messrs. Bird and Co. agents for the sale of ore constituted them promoters, he should have great difficulty, if pressed, to say that Mr. Poole, because he made himself solicitor, was not also a promoter. He thought the circumstances were not sufficient to take this case out of the ordinary rule under which the vendor was at liberty to pay his agents whatever he pleased provided the money came out of his own pocket, and not out of the coffers of the company. Having come to the conclusion that the price of 100,000*l.* was fairly fixed as the price of this property without any consideration as to the remuneration of the defendants, he thought that the vendors had paid the money, and not the company, and he, therefore, came to the conclusion that this action was not maintainable against Messrs. Bird, and that relieved him from going into any question as to whether Mr. Wm. Bird would have been liable, even if Mr. James Bird was, because he thought neither were liable.

Mr. COZENS HARDY asked for costs on the higher scale, and His LORDSHIP granted them.

CHANCERY DIVISION—MONDAY, DECEMBER 21.

(Before Mr. Justice KAY.)

RE THE ARGYLL COAL COMPANY.

This was an application on behalf of Mr. Joseph Watson to have his name removed from the list of contributories of the company now in liquidation.

Mr. Graham Hastings, Q.C., and Mr. Levett were counsel for Mr. Watson; Mr. Pearson, Q.C., and Mr. Buckley for the liquidator, who opposed the application.

Mr. HASTINGS, in opening the case stated that Mr. Watson was one of the seven signatories to the Memorandum of the Articles of Association, under which they were appointed the first directors, and his name appeared for 100 shares. He attended the first board meeting, which was held shortly after the registration of the company, when it was proposed that the directors should divide between them a certain sum of money, of which 400*l.* was his proportion. This proposal Mr. Watson strenuously opposed, contending it to be *ultra vires* on the part of the directors, and ultimately tendered his resignation of his position as a director, and asked to be taken off the list of subscribers. Upon the 26th July, 1875, a meeting of the board was held, and it was resolved to accept his resignation, and with regard to a request from him for an indemnity with regard to them, any such indemnity was unnecessary, he not having paid any money upon them, and a special allotment was made of the 100 shares proposed to have been allotted to Mr. Watson to another gentleman whom it was arranged should be appointed a director in his place. In accordance with those resolutions, the secretary wrote Mr. Watson a letter stating that no shares had been allotted to him, and his resignation accepted. Upon that statement he relied, and there the matter rested. In January, 1880, the company was, however, voluntarily liquidated, and on the 31st July, 1885, 10 years after, he received notice that a call had been made for 200*l.* in respect of the shares in question. Mr. Watson's name had never been entered upon the register of shareholders or the allotment in his name returned. He submitted that although he must admit that the transaction had been irregular, and that it would have been more formal for the shares to have been allotted to Mr. Watson in the ordinary course, and then transferred by him to the proposed director to be appointed in his stead, yet the company had been a party to, and had acquiesced in, the informality, and were, therefore, estopped from now coming forward through the liquidator after the lapse of 10 years, and claiming to make him liable in respect of the shares. He cited Mr. Nichol's case, which he said was similar to the present, he being a signatory to the Memorandum, where the Court of Appeal held that he was not liable in respect of the shares when the company had released him.

Mr. Justice KAY: In that case the whole of the shares had been issued. It has been decided that delay does not prevent your putting a man on the list of contributories.

Mr. HASTINGS: But the delay must be applied to the particular circumstances. They cannot come at the end of 10 years after the company has proved a failure, and claim to have Mr. Watson's name put on the register any more than he could have if the company had turned out to be a success.

Mr. Justice KAY: It is stated that the directors had no power to relieve him of his contract, and that it was *ultra vires*. It is a startling proposition to say that a subscriber of the Memorandum of the Articles need not take up his shares. The number required to sign was seven; without that number the company is not a corporation.

Mr. PEARSON (for the liquidator), said he should like to bring one or two facts before his Lordship which had not been brought distinctly to his attention. The Memorandum of the Articles of Association were dated the 16th of June, 1875. The registration of the company took place on the 21st of June. The capital of the company was 10,000 shares of 5*l.* each. There was no provision whatever in the Articles enabling the company or the directors to accept the surrender of shares. The total number of shares issued was 47,060, which was about one-half of the share capital. The directors never provided any register of shareholders. On the 18th of March, 1879, there was an extraordinary resolution passed to wind-up the company voluntarily, and by that resolution two directors, one being also a promoter, were appointed the liquidators. On the 28th of

March, 1879, at the instance of a creditor, a supervision order was made. Now, these liquidators never did anything under that liquidation, and the present claims were against those very men, and they were the persons principally liable to the company. In January, 1885, the creditors became anxious, and on the 10th of that month his Lordship removed the then liquidators, and appointed Mr. Kendal, the present liquidator, in their stead. Then Mr. Kendal proceeded to settle the list of contributories for the first time. He submitted that the principle that the signatories to the Memorandum of the Articles of Association was an elementary principle of company law, and that it had been so laid down in several well-known cases. The case which had been cited by the other side was quite different to the present. There the directors issued a certificate of the shares, and the man went into the market with them, and sold on the faith of that certificate.

Mr. Justice KAY dismissed the application with costs. Here Mr. Watson had signed the Memorandum of the Articles of Association, and was one of the seven subscribers who formed themselves in the first instance into a corporation under the Act. By the Articles the subscribers were the first directors of the company, and at the first meeting it was proposed to do something which was *ultra vires*, and take the money of the company. Mr. Watson disapproved of it, but instead of preventing it, as he might easily have done and ought to have done, being in a position of fiduciary trust, he chose to resign. How, then, could he on principle claim any sympathy from the Court? Nor did he (Mr. Justice Kay) think he was entitled to any relief by law. The cases were to his mind clear upon the subject, and were to the effect that a subscriber to the Articles was bound to take up his shares in the regular way. It had been said that he had never been registered, but it appeared that no register had been kept, and clearly it was the duty of the first directors to see that one was provided, and it was his own neglect in not seeing his name properly registered. He, therefore, for the above reasons refused the application.

CHANCERY DIVISION.—DECEMBER 19.

(Before Mr. Justice PEARSON.)

MURRIETTA V. THE BERLANGA SILVER LEAD MINING COMPANY.

This was the further consideration of a debenture-holder's action. His LORDSHIP gave judgment on the 20th December, 1884, directing an enquiry as to who the debenture-holders were, what was due to them, value of the property priced under the securities, and the best means of dealing with the matter. A liquidator was appointed with the power to borrow money for the purpose of keeping the mines, which were situate in Spain, and liable to forfeiture, afloat. Counsel now stated that Messrs. Murrietta were the principal holders having about 25,000*l.* worth of debentures out of a total of 30,000*l.* They had also advanced money to the liquidator, and the property had been sold to them partly through an order made in the action, and partly through one made in the winding-up. After the re-payment of the sum advanced by Messrs. Murrietta the balance available for the debenture-holders was only 328*l.* under these circumstances it was proposed with his Lordship's consent to discharge the liquidator who was appointed without salary, and that he should be at liberty should he think fit, to apply to the Court for remuneration.

Mr. Justice PEARSON assented to the course proposed.

A MINING LEASE COVENANTS.

INSOLE AND THE EBBW VALE STEEL, IRON, AND COAL COMPANY (LIMITED).

This action referred to Mr. T. Smith Woolley with Mr. Gully, Q.C., as legal assessor, was brought by Mr. Insole, the owner of an estate in Luxborough, Somerset, and the adjoining parishes against the above company, who held a lease to work iron ore, and which lease was determined by notices from the company in 1883. The case was heard on the 3rd and 4th of December, at the Surveyors' Institution. The plaintiff claimed damages under the clauses in the lease, that at the end of the term the company had to deliver up the cottages and other buildings in good repair and condition, and that the surface of lands used by the company was to be restored to its former state and condition.

The plaintiff claimed 756*l.* for dilapidations, and 4200*l.* for the removal of the slag heaps, and the restoring of the surface of the lands to their former condition. The company denied their liability to repair some of the buildings upon the ground that they could remove portions of the walls for the purpose of taking out their machinery, and they had the right to remove certain floors, doors, and windows.

The company admitted they were liable for certain repairs, and paid into Court in respect of them the sum of 167*l.* 4*s.* 7*d.*, but denied their liability as to the removal of the slag heaps; but, if they were held liable, they accepted Mr. Savill's figures, 4200*l.*

Mr. W. H. Graham, instructed by Messrs. Matthews and Sons, of Cardiff, appeared for Mr. Insole; and Mr. Mackay, instructed by Mr. Edwin Hellard, of Taunton, for the company.

The covenants in the lease were fully argued by counsel. Mr. Alfred Savill, of 3, St. Helen's Place, E.C., and Mr. W. Sturge, of Bristol, were witnesses for the plaintiff; and Mr. Rich, of Redruth, Mr. Thomas, of Camborne, and Mr. Hawkes, of Williton, Somerset, were witnesses for the company.

After hearing the evidence, the arbitrator decided that the plaintiff was entitled to be paid for the repairs to all the building and cottages.

The case stands adjourned as to other matters.

LORD MAYOR'S COURT.—TUESDAY, DECEMBER 23.

(Before the Assistant Judge and a Jury.)

DALTON V. CROMMIRE.

In this case Mr. H. C. Richards and Mr. Lewis Edmund appeared for the plaintiff, and Mr. Willey Wright for the defendant. In opening the case, Mr. Richards said the plaintiff was Mr. Richard Dalton, residing at Craigland, Belmont-road, Bristol, and the defendant was Mr. Ashley Albert Henry Crommire who carried on business as a stock and share dealer, under the style of Broadhurst Bent and Co., at No. 1, Tokenhouse-buildings, Throgmorton-street. The learned counsel said he would prove that the defendant had obtained from his client 32*l.* 17*s.* 6*d.* by false and fraudulent representations, on the ground that he was an authorised and licensed share and stockbroker and member of the London Stock Exchange, and bought and sold subject to its rules and regulations. He (Mr. Richards) should prove that the defendant was not what he represented himself to be, but that he was a young gentleman with no less than five different addresses in the City. It turned out, however, that the address so pompously announced meant a "small three-pair back," and was situated at the top of certain buildings, with a common entrance.—His Lordship: Do you mean to charge the defendant with fraud?—Mr. Richards: I do, my Lord. The defendant's circular contained this wonderful testimonial—"4, George-yard, Lombard-street.—Messrs. Broadhurst, Bent, and Co.—Gentlemen,—I have examined and audited your books to 31st inst., and find the amount of business transacted by you in the six months then ending to have been 3,476,813*l.* 11*s.* 7*d.*, in the purchase and sale of stocks, shares, bonds, mining and miscellaneous securities.—H. WAISSEN WILSON." Deceived by such representations, the plaintiff bought shares in the La Trinidad Silver Mine. Those shares were worth at the time 5*l.* each, but the defendant charged them at 5*l.* 7*s.* 6*d.*, dealing with them as an authorised broker, and reselling them at a loss. There were various other charges, which proved the whole thing to be a fraud. A long legal argument took place, after which the plaintiff was called and proved that he dealt with the defendant as a broker, and that he had not received the full amount of his deposit or dividend.—The learned Judge ruled that there was fraudulent representation; and the jury gave a verdict for the plaintiff for 32*l.* 17*s.* 9*d.*, being the full amount invested.

Mr. Sidney Crommire, who is better known as Herbert Harrison, has been arrested on the Spanish frontier. On the intelligence reaching the head office of the City Police in Old Jewry, Detective



serjeant Outram, who was in possession of a warrant, started to receive him from the French authorities. Cronmire immediately after the adjournment at the Guildhall Police-court of the case which had been brought against him by a gentleman named Waud, started for France with a view to reach Spain, in which country he would have been safe from extradition. It became known that he was making this journey, and as the offence with which he is charged comes within the Extradition Treaty with France, the French side of the Spanish frontier was closely watched, and the result was his arrest. Cronmire had invested all his ready money, 12,000*l.*, in Spanish bonds before he started, and it was this circumstance which led to his being traced. He left the country with 4000*l.*, raised on his wife's jewellery.

#### SIDNEY CRONMIRE, AND HIS CREDITORS.

In accordance with an invitation signed by Messrs. Barnes and Scott, a fair sprinkling of the London creditors of Sidney Cronmire, who has been trading as a stockbroker under the name of Herbert Harrison, attended at the Bell Hotel, Old Bailey, E.C., on Monday evening. There were several solicitors representing creditors from a distance.

Mr. E. BEALE was voted to the chair, and briefly explained some of the chief steps necessary to be taken for the protection of creditors' interests.

A discussion lasting over an hour and a half followed, during which it was stated that Cronmire had disposed of a yacht, but had still assets, consisting of horses, a carriage, and some very valuable furniture. A hint was thrown out that Mr. Cronmire might possibly arrive from Paris; that there was a tin box containing 2000*l.* worth of securities lodged in one of the City banks, and that application had already been made for the delivery of its contents; that Mrs. Cronmire had been seen in the City during the day; that a post-nuptial settlement had been made by "Cronmire in consideration of Sidney marrying her."

The first practical piece of work came with a proposition from Mr. EMANUEL that Mr. Beale should act in consultation with Messrs. Lewis and Lewis to protect creditors.

Ultimately, Mr. BEALE moved that—"It being represented to this meeting that there are sums of money belonging to the said Sidney Cronmire or his wife, as well as considerable furniture and effects, that the undersigned, being creditors of the said Sidney Cronmire, resolve to adopt proceedings in bankruptcy against the said Sidney Cronmire, with the view to protect such mentioned effects."—Mr. SCOTT seconded the motion, which was carried unanimously.

On the motion of Mr. EMANUEL, seconded by Mr. SCOTT (Barnes and Scott), it was agreed to subscribe a maximum sum for Mr. Beale to take immediate steps in bankruptcy, that being considered the best way of obtaining possession of any assets.

The following gentlemen were appointed a committee to watch over the interests of the creditors—Mr. Beale, Mr. Whitfield, Mr. Arthur Scott, Mr. Emanuel, Mr. Scott (Barnes and Scott), and Mr. Lawford (landlord). Thirty pounds was subscribed in the room.

On the motion of Mr. WHITFIELD a vote of thanks was passed to Mr. Beale, and the meeting broke up.

#### SOUTH STAFFORDSHIRE IRON TRADE IN 1885.

Several events have occurred during the past year to occasion anticipations of a revival in South Staffordshire, but expectations have been disappointed. The department which has exhibited most activity has been the sheet trade, which has extended and increased. In January marked bars were quoted 8*l.* 2*s.* 6*d.* for Earl Dudley's makes, and 7*l.* 10*s.* as the quotation of other leading firms—a price which even then had existed for nearly two years. The market, however, regarded the quotations as hardly more than nominal, except in respect of about three firms. The majority of the best bar makers were known to be willing to execute orders for shipment at 6*l.* 15*s.* down to 6*l.* 10*s.*—a state of things which still prevails. Common bars were at this time 5*l.* 10*s.* as a minimum, and common hoops 5*l.* 15*s.* to 6*l.* Sheets were 6*l.* 15*s.* to 7*l.* for galvanising singles, and 7*l.* 10*s.* for doubles. Before March came in some considerable orders for iron pipes, and other manufactures needed in connection with the construction of the Suakim-Berber Railway were placed in Staffordshire, but the general market demand showed no improvement, and at the April Quarterly Meeting business was very flat. Galvanising doubles were reduced 5*s.*, and lathens about 2*s.* 6*d.* Boiler plates now stood at 8*l.* to 8*l.* 10*s.*, and hoops at 6*l.* 5*s.* down to 5*l.* 10*s.* for common sorts. In the same month an application was made by the ironmasters to the Pre-empt of the Wages Board for a reduction in wages, but wages remained unaltered. In June an advance in common bars and sheets was deemed not unlikely, in consequence of a great ironworkers' strike in Pennsylvania, but several failures of Staffordshire ironmasters happened about this time, and the market became disorganised. At the July Quarterly Meetings people were afraid to operate, and prices were weak, but generally without quotable change, except as to sheets. Before September arrived a marked improvement occurred in the galvanised and block-sheet trade, induced by the circumstance that in consequence of a rise in spelter on the London market galvanisers put up prices 5*s.* Block-sheet makers advanced from 2*s.* 6*d.* to 5*s.*, but the advance did not hold long, and the October Quarterly Meetings were very dull. The last quarter of the year has seen but little change, and the close of 1885 finds unworked iron weaker by 10*s.* per ton than it was at the opening, and galvanising sheets weaker by 10*s.* to 20*s.* Pig iron prices have seen but little alteration. A reduction in crucial prices is deemed not altogether unlikely at the January Quarterly Meetings next year. Furnace and forge coal prices, though in reality weaker, have seen no declared change.

#### KOHINOOR AND DONALDSON MINING COMPANY.

The report of the directors of the Kohinoor and Donaldson Consolidated Mining Company (Limited) for the year ending December 31 last, to be presented to the meeting on the 29th inst., states that, with a few exceptions, the great body of shareholders have done little or nothing towards assisting the directors to place either the 15,000*l.* of B debentures or the 8000*l.* of preference debentures; they seem to be content to let things take their course, and not to make any effort to assist the directors in putting the property in a remunerative position; they should remember that, irrespective of the Kohinoor Mine, the company owns the Donaldson Mine and the Champion Mine, both good properties, situated in the centre of a large mining district, very little worked up to the present time, and requiring, it is believed, only a small amount of expenditure to develop and open out large quantities of paying ore; and the directors cannot press too forcibly on the shareholders the desirability of raising quickly the small amount of money sufficient for this purpose. The working of the mines during the past year has been so irregular that the results obtained form no criterion of their value or capabilities; and having provided a 50 stamp mill, which is reported as being second to none in the United States, with ample water-power, self-acting tramways, steam hoist, and other appliances, all designed for the purpose of saving labour, the directors cannot doubt that when these two mines are in proper work they will produce a handsome return for the capital invested. The output from the date the mill started, in March last, to October is 6665 tons of ore, realising \$41,100.

**MINES DRAINAGE RATE FOR OLD HILL.**—On Tuesday at Wolverhampton, a joint court was held of the South Staffordshire Mines Drainage Arbitrators and Commissioners; Mr. H. J. Marten, M.E., the only arbitrator present, presiding. Messrs. J. W. Williams, E. Howl, D. Groucutt, and W. J. Hayward (commissioners) attended, and also Messrs. J. E. Underhill, (law clerk) E. B. Marten, C.E., and W. B. Collis (engineer for the Old Hill district). The Court met to hear appeals against the arbitrators' draft award for a mines drainage rate of 6*d.* per ton in the Old Hill district. It was stated, however, by Mr. Underhill that no notices of appeal had been received, and the business done was therefore entirely formal. The draft award was confirmed, and it was agreed that on January 1 the award should be signed and made binding.

#### THE INSTITUTION OF CIVIL ENGINEERS.

At the seventh ordinary meeting, held on Tuesday, the 22nd of December, Sir FREDERICK J. BRAMWELL, F.R.S. (President) in the chair, the paper read was "On Construction in Earthquake Countries," by Mr. John Milne, F.G.S., Professor of Mining and Geology, Imperial College of Engineering, Tokio, Japan. The result of observations showed that there was at least one earthquake per day in Japan, including simple tremors. Buildings in that empire were of three types:—Ordinary brick-and-mortar structures, light wooden houses, and buildings strongly bound together with cement and iron rods, considered to be earthquake-proof. The author had observed the effects of earthquakes upon buildings, and had instituted experiments to measure the relative motion in different parts of a building when shaken by an earthquake, as well as others to determine how far earthquake motion might be cut off from buildings. Earthquakes which had produced effects on buildings in Japan generally commenced with tremors of small amplitude and short period. They appeared to be surface waves, and lasted 10 or 12 seconds. These tremors were succeeded by the shock. If this had an amplitude of 25 millimetres, and a maximum acceleration of 500 or 600 millimetres per second, brick chimneys were in danger of being cracked. The amplitude and period of a shock were measured by diagrams taken by seismographs. From these quantities, on the assumption of simple harmonic motion, the maximum velocity, which determined the projecting power, and the maximum acceleration or intensity, might be calculated. The author then showed in what respect the methods pursued by him differed from those followed by the late Mr. Robert Mallet, M. Inst. C.E. The phenomenon terminated by a series of irregular vibrations resultant on the first shock, together with other shocks at intervals of a few seconds. The period of all the vibrations depended partly on the intensity of the disturbance, and partly on the nature of the ground. These concluding vibrations had periods of from 0.2 to 0.25 of a second. The author showed that there might be a disturbance of very large amplitude which would produce no destruction, and that at two neighbouring stations it was only the shocks which had similar directions. The motions were generally performed in ellipses, like the figure 8, spirals, and in a complexity of directions too intricate to define. The vertical component was relatively so small that it might usually be neglected. In the vicinity of an epicentrum there was without doubt much vertical motion. Of this, however, the author had no experience, but he concluded that the area of the anelastic wave was relatively small, and that if the effects of the horizontal shock could be nullified much destruction might be prevented. Experiments had shown that earthquake motion might be partially avoided, either by making a seismic survey of the area on which it was intended to build, and then selecting a site where the motion was comparatively small; or by adopting free foundations, or by using deep foundations. The author described a series of earthquake stations he had established on the premises of the Imperial College of Engineering, Tokio, which included an area of 10 acres. The differences in the amount of motion at some of these stations showed that in the same earthquake buildings in certain positions would have been destroyed, while others on the same limited area would have been practically uninjured. The authorities in Tokio had since discussed the feasibility of making a seismic survey of the whole city, or at least of those portions where it was intended to erect large and important buildings. Some years ago the author made experiments to determine the difference in the range of motion on high ground as compared with that experienced on low ground. The result obtained in Tokio showed that there was least motion on the hills. This rule appeared to be reversed in Yokohama. With respect to free foundations, the author had erected a building 20 ft. by 14 ft., constructed of timber, with a shingle roof, plaster walls, and a ceiling of laths and paper. The building rested on 10 in. shells, supported on cast-iron plates with saucer-like edges fixed on the heads of piles. Above the shells, and attached to the building, were cast-iron plates, slightly concave, but otherwise similar to those below. From the records of instruments placed in the building it would appear that at the time of the earthquake there was a slow motion backwards and forwards, but that all the sudden motion or shock had been destroyed. Although this device somewhat mitigated the effects of earthquakes, the motion produced by walking, by the wind, and by other causes, resulted in effects much more serious than those due to ordinary earthquakes. To increase the rolling friction the author next employed 8 in. shot, and after that 1 in. shot. The last attempt was to support the building at each of its six piers upon a handful of  $\frac{1}{2}$  in. cast-iron shot resting on flat plates. By this means friction had been so much increased that the house stood solidly, and unless its free foundations were pointed out the peculiarities of the building would not be noticed. Its movement at the time of an earthquake was very small. If still finer shot, and in greater quantity could be employed, the resultant advantages might be increased. These experiments showed that light one-storied buildings, like bungalows, built of wood and iron, might be put so that sudden horizontal motion of the ground could not be transmitted to them. Experiments with regard to deep foundations had been carried out in a pit 10 ft. deep, and 4 ft. wide. At the bottom, where there was a natural hard earth, a seismograph proved that there the motion was always very small. The question of how to avoid destruction, due to the acquisition of momentum, was then discussed. It was pointed out that stresses and strains applied horizontally had chiefly to be dealt with, and not those due to gravity. This was illustrated by an ordinary masonry arch. For vertically-applied forces this was stable, whilst for horizontally-applied forces its stability solely depended upon the adhesion of the material which cemented it together. An examination of many brick arches which had been cracked by earthquakes showed, among other points, that if archways were indispensable, they should curve into their abutments, and not meet them at an angle. Another important rule was to avoid coupling together two portions of a structure which from their position were likely to have different vibrational periods. A remarkable example had been afforded in Yokohama after the earthquake of the 20th of February, 1880. A moderately high factory chimney was supposed to require support; it was, therefore, connected by an iron band to a neighbouring building. When the earthquake came the band cut it in two. Chimneys of bungalows were liable to destruction due to difference in vibrational period. By themselves either the chimneys or the roofs of the bungalows would have been secure, but when in contact they had been mutually destructive. If united, the various parts of a building, having different vibrational periods, should be connected by bonds so strong as to be constrained to move as a whole. Other observations indicated that in a severe earthquake the difference in phase of the portions of the building at the two sides of a crack sometimes reached 2 millimetres, from which it was deduced that portions of a building not likely to synchronise in their vibrational period ought either to be strongly tied together, or else, by joints intentionally left during its construction, be completely separated from each other. Finally, the author observed that in the construction of buildings in countries liable to earthquakes, the most important principles to be followed were:—First, to provide against horizontally-applied stresses; secondly, to allow all parts of the building with different vibrational periods either to have freedom amongst themselves, or else to bind them securely together with long steel or iron tie-rods, especially at the floors and near corners; and, thirdly, to avoid heavy superstructures.

The following announcements were made:—

Ordinary meeting, Tuesday, January 12th, at 8 P.M.—"On Gas-Producing," by Mr. Frederick John Rowan, and the second monthly ballot for members for the current session.

Students' meeting, Friday, January 15, at 7.30 P.M.—"A Graphic Method of Determining the Flow of Water in Pipes," by Mr. Rudolph Emil von Lengerke, Stud. Inst. C.E. Dr. W. Pole, F.R.S., hon. sec. Inst. C.E., will preside.

#### Provincial Stock and Share Markets.

##### CORNISH MINE SHARE MARKET.

—Mr. M. W. BAWDEN, Liskeard, writes under date December 23:—The mining market is still dull and will probably remain so until after the Christmas recess. There is an enquiry to-day for Pedn-an-drea United shares on an improvement in the bottom levels and shares are firmly held for an advance. Following are prices:—Anderton United, 3*s.* to 4*s.*; Bedford United, 7*s.* to 8*s.*; Blue Hills, 15*s.* to 16*s.*; Carn Brea, 2*s.* to 3*s.*; Cook's Kitchen, 9 to 9½; Dolcoath, 7*s.* to 7½; Devon Consols, 2½ to 2¾; East Blue Hills, 1¾ to 1½; East Pool, 4*s.* to 4½; Gunnislake (Clitters), 3*s.* to 4*s.*; Killfret, 10*s.* to 11*s.*; Marks Valley, 2*s.* to 2½; New Kitty, 1½ to 1¾; Pedn-an-drea United, 1½ to 1¾; Phoenix United Mines, 1½ to 2; Prince of Wales, 6*s.* to 7*s.*; South Condurrow, 5½ to 6; South Crofty, 6½ to 6¾; South Frances, 6½ to 6¾; Tincroft, 5½ to 6; Trevaunance Consols, 2 to 2½; West Basset, 3 to 3½; West Frances, 8½ to 9; West Kitty, 7½ to 8; West Phoenix, 3*s.* to 4*s.*; West Seton, 4½ to 4¾; Wheal Agar, 19 to 19½; Wheal Basset, 5½ to 6; Wheal Crebor, 1½ to 1¾; Wheal Grenville, 16 to 17; Wheal Kitty, 15*s.* to 17*s.*

—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth, write under date December 23:—The market has been quiet this week, however there has not been much disposition to sell, and prices do not show any material variation. Tin standards unchanged. Closing quotations are annexed:—Blue Hills, 15½ to 16; Carn Brea, 2½ to 3; Cook's Kitchen, 9 to 9½; Dolcoath, 7½ to 7¾; East Blue Hills, 1¾ to 1½; East Pool, 4½ to 4¾; Killfret, 10½ to 11; New Cook's Kitchen, 9 to 9½; New Kitty, 1½ to 1¾; Pedn-an-drea, 2*s.* to 2½; South Condurrow, 5½ to 5¾; South Crofty, 6½ to 6¾; South Frances, 6½ to 7; Tincroft, 5½ to 6; Trevaunance, 2 to 2½; West Basset, 3 to 3½; West Frances, 8½ to 9; West Kitty, 7½ to 7¾; West Seton, 4½ to 4¾; Wheal Agar, 19 to 19½; Wheal Basset, 5½ to 6; Wheal Grenville, 16½ to 17; Wheal Kitty, 15½ to 17. One o'clock, tin 92*l.* 12*s.* 6*d.*

—Mr. JOHN CARTER, mine sharedealer, Camborne, writes under date December 23:—A quiet tone prevails in the Cornish share market this week. Pedn-an-drea have advanced to 2½*s.*, buyers. Closing quotations are annexed:—Blue Hills, 15½ to 16; Carn Brea, 2½ to 3; Cook's Kitchen, 9 to 9½; Dolcoath, 7½ to 7¾; East Blue Hills, 1¾ to 1½; East Pool, 4½ to 4¾; Killfret, 10½ to 11; New Cook's Kitchen, 9 to 9½; New Kitty, 1½ to 1¾; Pedn-an-drea, 2*s.* to 2½; South Condurrow, 5½ to 5¾; South Crofty, 6½ to 6¾; South Frances, 6½ to 7; Tincroft, 5½ to 6; Trevaunance, 2 to 2½; West Basset, 3 to 3½; West Frances, 8½ to 9; West Kitty, 7½ to 7¾; West Seton, 4½ to 4¾; Wheal Agar, 19 to 19½; Wheal Basset, 5½ to 6; Wheal Grenville, 16½ to 17; Wheal Kitty, 15½ to 17. One o'clock, tin 92*l.* 12*s.* 6*d.*

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, stock and share brokers, Queen's Chambers, Market-street, write under date, December 23:—As Friday and Saturday (Christmas Day and Bank Holiday) are closed days, and Monday is carrying over day, tomorrow practically ends the last account of the year, and in view of this the usual indisposition to undertake fresh engagements at this period has tended to restrict business throughout all departments of the share markets and this indisposition to act has been conducted to, also by the unfavourable trade advices. Railway traffic still, as they have for some time back, augur very ill for the approaching dividend announcements unless some very more hopeful appearance presents itself with the turn of the year, values of railway investments bid fair to suffer still further depreciation, and in this direction the movements of quotations almost all along the list of rails, have tended, and the decline, though not very severe, has been with some short periods of but slight steadiness, continual. Consols to some extent, probably owing to uncertainty of home political affairs and partly in sympathy with other markets, are lower, quotations for cash being ¾ to ¾, and for January account ¾ down. The only changes recorded here in Colonial Government loans record similar change. Foreign Government loans are irregular, and what alterations there are besides those named hereafter are but fractional. Peruvians Six per Cent. and Five per Cent. issues are ¾ to ¾ and ¾ respectively better. On the other hand, Argentine Hard Dollar Bonds have declined 1, and Egyptian United ¾, Preference ¾, and Daira Sanieh, ¾ to ¾. Miscellaneous shares report a straggling total of transactions, and the record of revisions of quotations do not call for special general mention except to say that with business so sluggish prices in the great majority of instances have not been actually tested by attempts at dealings.

HANKS steady, with few lots coming to market, excepting in cases of forced sale as by executors and such other causes.

INSURANCE participate fully in the lack of dealings reported.

COAL, IRON, &c., AND MINING.—Coal shares almost ignored, iron shares, with railway traffic showing so poorly, and this being taken as evidence of dullness of trade, coupled with decline in pig-iron, have receded. In mining the Indian gold mine shares have produced some activity, numerous fluctuations being recorded with the result that though not all maintaining best points of the week, some recovery from relapse after the excitement is established on the week.

CORROSPONDING shares very dull, and still tending in buyers' favour.

RAILWAYS, with few exceptions, have gone down almost without interruption, but some few times of slight recovery have kept figures from showing material decline on the week. Lancashire and Yorkshire, after exhibiting distinct fall, have recovered somewhat, notwithstanding their poor prospects for dividends. Americans, with some oscillations, are lower on balance, taken as a whole, buying and laying by being apparently the operation which is being generally undertaken, the operation being very fair to result in good profits before long. Grand Trunk is not much changed on balance for the week, but what little change is to be noted is adverse.

##### SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker, under date December 23 writes:—During the past week the market has been quiet, owing to the approaching settlement and holidays. Prices do not show much alteration. The prospects for the New Year, however, are still favourable.

In shares of coal, iron, and steel companies prices are steady. Bull's Iron are at 5*s.* to 6*s.*; Cardiff and Swansea, 15*s.* to 20*s.*; Direct Steel, 5*s.* to 6*s.*; Marbella, 5*s.* to 5½*s.*; and West Cumberland, 5*s.* 3*d.* to 5*s.* 9*d.*

In shares of copper concerns prices do not show much alteration. Tharsis have been sold from 9½*s.* to 9*s.* 6*d.*; Arizona, 11*s.* 6*d.* to 12*s.* 6*d.*; Rio Tinto, 11 to 11½*s.* Spanish Copper (Deferred) offered.

In shares of home mines there has been little business doing. North Buxy show no alteration, although the reported improvement has been confirmed. The last sale of the Glasgow Caradon completed the financial year, and it appears the sales this year have been 1830 tons, realising 584*l.*, which shows an increase of 1150 tons, and 431*l.* over the sales for 1884. Coedy-Pedw are at 3*s.* to 5*s.*; Carn Camborne, 2*s.* to 3*s.*; Drakewalls, 3*s.* to 4*s.*; Holywell District, 5*s.* to 7*s.* 6*d.*; New Trumpet, 5*s.*; Pedn-an-drea, 2*s.* to 2½*s.*; Shepherds United, 2*s.* 3*d.*; West Polbreton, 10*s.* to 12*s.* 6*d.*; and Wheal Kitty, 15*s.* to 17*s.* 6*d.*

In shares of gold and silver mines a large business continues to be done. Montserrat have been sold from 7½*s.* to 7*s.* 6*d.*. Meetings of the Chontales and Kohinoor companies are to be held on December 29. The report of the latter company states the Donaldson Mine is improving, but more money is required to develop the Champion Mine. The machinery is in first-class order. Great Southern of Mysore shares, Nundydroog Debentures, and Simons Reef shares wanted. Indian Kingstons offered. Akankoo are at 2*s.* to 2½*s.* 6*d.*. Anglo-African Diamond, 32*s.* 6*d.* to 37*s.* 6*d.*. Balkis, 4*s.* to 4½*s.*. California, 3*s.* 6*d.* to 4*s.* 6*d.*. Colombians, 3*s.* to 3½*s.*. Denvers, 1*s.* to 1½*s.* 6*d.*. Don Pedro, 3*s.* 6*d.* to 4*s.* 6*d.*. Devala Moya, 12*s.* 6*d.* to 13*s.* 6*d.*. Glasgow Golds touched 12, now 11. Hoover Mill, 9*s.* 6*d.* to 9*s.* 9*d.*. Indian Wentworth, 3*s.* 6*d.* to 4*s.* 6*d.*. Indian Consolidated, 21*s.* to 22*s.*. Kapanga, 9*s.* to 1*s.*. Kohinoor, 2*s.* 6*d.* to 4*s.* 6*d.*. Lisbon-Berlyn (new), 2*s.* 6*d.* to 3*s.* 6*d.*. Mysore, 5½*s.*. Mysore Reefs, 12*s.* to 13*s.*. New Potosi, 5*s.* 6*d.* to 6*s.* 6*d.*. Ocaras, 3*s.* 6*d.* to 4*s.* 6*d.*. Oregum, 12*s.* to 21*s.*. Port Phillip, 2*s.* 6*d.* to 3*s.*. Russell, 9*s.* to 10*s.*. Santa Barbara, 2*s.* to 3*s.*. Transvaal, 4*s.* to 5*s.*. Victoria, 2*s.* to 3*s.*. Viola, 15*s.* to 16*s.*. Wynad Perseverance, 3*s.* 6*d.* to 4*s.* 6*d.*. West Callan, 3*s.* 6*d.*

In shares of miscellaneous companies business has been quiet. Oil companies shares are steady. Home Mines Trust, 14*s.* to 15*s.*. New Explosives, 25*s.*. Nobel's Explosives have been sold from 16½ to 17.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princess-street, write under date December 23:—Prices of home railway ordinary stocks have been dropping during the past week, and the usual dullness of the season has been felt. A rather heavy decline has taken place in Grand Trunks of Canada stocks on continued low traffic returns. A moderate amount of business has been done in Americans, and there have been no changes in quotations of these worth mentioning. National Bank on the reduction of the dividend has receded from 313 to 311. Clydesdale have declined from 21½ to 21*s.*. In insurance shares, Liverpool, London, and Globe have declined from 27½ to 26½. In investment companies, Mortgage of South Australia have declined from 29*s.* to 28*s.*. British and New Zealand from 20*s.* to 15*s.*, North of Scotland Canadian at 56*s.* are 1*s.* higher, and Otago and Southland at 38*s.* 3*d.* are higher. In mines, Arncliffe Coal have risen have 12½ to 13. Tharsis have receded from 96*s.* to 95*s.*. In Indian mines Indian Gold, Indian Consolidated, and Mysore show a fall. Prairie Cattle shares at 94*s.* 6*d.* are 6*d.* higher. Powder River have declined from 70*s.* to 50*s.*. Scottish Assam Tea have advanced from 5½ to 6. Distillers at 15½ are 5*s.* higher. Assets are unchanged at 5½.

The committee of the South Yorkshire Coalowners Assurance Society, meeting at Sheffield on Tuesday, had under consideration a scheme for the future settlement of wage disputes submitted by Mr. Benjamin Pickard, M.P., and a deputation from the Yorkshire Miners' Association. The further consideration of the scheme has been adjourned. It is understood that there is every prospect of an amicable arrangement being arrived at, by which in the future miners' wages will rise and fall with the fluctuating values of coal and strikes and lock-outs be averted.



## Reviews.

JAMES NASMYTH\*.

Those to whom the editor of this volume is known as the author of "Lives of Engineers," "Self-Help," and works of a similar character, will feel on first opening this book a shade of regret that the biography of James Nasmyth had not been the work of Dr. Smiles. The shade of regret, however, almost at the first glance is chased away by the gleam of bright forgetfulness of self that through the whole book intensifies. Though writing about his own life, there is an absence of vaingloriousness, without any attempt at mock humility, that gives a piquancy to this little work seldom found in autobiographies. There is an utter absence of ostentation in the way in which one learns in perusing the book how the exigencies of the work on which the author was employed were met as they arose, and if tools formerly used were not improved tools had to be, and without fuss or blatant advertisement even among his own work-people, were contrived and, if necessary, invented.

It is very characteristic of the man that, whilst giving a most interesting account of his family history, he forces on the mind of the reader an idea, which suddenly takes form and shape in one sentence, that fits in with the bent of the readers' mind. He tells us that the origin of the name Nasmyth, is, recorded to have been, that in the reign of James III., one of his ancestors who had concealed himself, in the disguise of a hammerman in a smithy after a fight with the rebellious followers of Douglas, in his agitation during a search by the partisans of Douglas, struck a false blow, and broke the shaft of the hammer. "Ye're na Smith!" exclaimed the Douglas men, and a fight ensued ending in their expulsion from the smithy, and subsequent defeat by the king's forces, rallied by the "Nae Smyth." For this he was presented with lands, and had for armourial bearings a hand dexter with a dagger between two broken hammer shafts. The mind immediately jumps to a comparison between the ancestor who could not strike a true blow with a hammer, yet in a few moments, with a dagger snatched from the man who saw through his disguise, overpowered him and turned the tide of victory, and the man whose genius invented and talent perfected the mighty steam-hammer, so beautifully adjusted and arranged as to be alike capable of breaking an egg-shell in a wineglass without injury to the latter, and to weld together into one homogenous mass several tons of steel or iron. An autobiographer with even a paragonably excessive pride in his own achievements might have dilated on this, and plumed himself on being the latter of the two men. So does not the veteran engineer whose name is world known. In one sentence he simply says that his ancestor's motto was "Non arte sed Marte," "Not by art but by war," which, while retaining the arms, he has reversed into "Non Marte sed Arte," "Not by war but by art," showing as a device the most potent form of mechanical art—the steam-hammer. Yet one more instance of this charming naïveté. As he mentions different ancestors, one cannot feel that certain attributes appear in each whom he names, that must form parts of this great man's character; and almost as quickly as one grasps the idea, again it is presented to one in a crystallised sentence—"We represent the hereditary influences of our race, and our ancestors virtually live in us." Thus silently discounting his own talents, he points out that his grandfather and father before him were well known in the intellectual world—that his holiday treat was to go with his father to his grandfather's works, where it was impressed on his mind, by his own observation, that the work was required to be as near perfect as it could be, "nothing merely moderate would do." Again he reminds us that his father was intimately connected with the construction and launch of the first steamboat. From his father, Alexander Nasmyth, he implies rather than asserts that he acquired those habits of perseverance and thoroughness that were of such assistance to him. He also, by an amusing anecdote points out his father's "resourcefulness" as he calls it, a trait which those who read this memoir must admit the son most largely inherited. He openly advocates, and still more by his account of his own progress, inculcates the advantages of technical training. He appears to think his own knowledge was gained far more by seeing and handling than by mere reading. Thus he mentions the benefit accruing to himself and a fellow student from the fact that they were compelled to make their own chemical agents for their experiments in hardening steel, instead of having them ready to hand. There are also valuable hints to the employers of skilled labour about making ability the test of advance, stimulating to steadfast work by hope of promotion, and, above all, careful selection of trustworthy men as workshop lieutenants. In connection with the employment of labour he shows how that resourcefulness, which he intimates he had inherited, led him when the men were on strike to invent many self-acting tools, and how the cupidity of the workmen (these are our words not his, for he casts no blame on anyone throughout the book, save by stating facts, and letting the only inference be drawn) brought about their permanent detriment, since self-acting tools that did not get drunk, never had shaky hands, absent themselves from work, or strike at inconvenient times, soon were appreciated as comparing favourably with human beings. The book abounds with instances of the limitless resourcefulness of the author, mentioned with the simplest frankness, and no vaunting. As a boy it was shown by the conversion of his bedroom into a brass foundry, the use of which was forbidden, however, late at night by his father, who feared his health would not stand the strain of late work, and even in such a small particular as the simple plan of a piece of old carpet put as a non-conductor of sound under the moulding box that told tales when he worked late, his foundry being above his father's bedroom, shows that his readiness was always at hand to enable him to achieve his desired end. There is a pleasure in tracing this faculty of overcoming difficulties that makes it no easy task to lay the book down. The culminating example of this is in connection with that marvellous machine which has justly earned for Mr. Nasmyth a renown that reaches wherever mechanism is known. After being many years with the great engineer, Mr. Maudsley, of whom he speaks with affectionate admiration, and whom he persuaded to take him as a pupil by a mode that was most characteristic, he set up on his own account, and was doing so prosperous a trade that the Great Western Company, then in its infancy, was one of his customers. A large order for tools, with which to build a steamship called the Great Britain, was given, and executed to the full satisfaction of the company's engineer. In constructing the engines, however, an unexpected difficulty arose. The enormous wrought-iron intermediate paddle-shaft was so large that none of the forges in the country would undertake to make it. Of this fact the engineer informed him in a letter, and asked his advice as to whether cast iron might be used. "This letter immediately set me thinking," he says, "How was it that the existing hammer was incapable of forging a wrought-iron shaft of 30 in. diameter?" This is the man all over—"In half-an-hour from receiving the letter," he goes on, "I had the whole contrivance in all its executive details before me in a page of my scheme book." And he assures us every detail of the drawing retains to this day the form and arrangement he gave it 43 years ago. Only mechanical engineers can realise what a vast stride towards the ultimate mastery of all mechanical difficulties has resulted from this invention. Yet the genius that gave it birth is content to treat the invention in this way:—"It is no small gratification to me now . . . to find that I hit the mark so exactly, not only in the general structure, but in the details, and that the invention as I then conceived it and put it into shape still retains its form and arrangements intact in the thousands of steam-hammers that are now doing good service in the mechanical arts throughout the civilised world." Like his own invention, the mind of Nasmyth could crack the difficulty of foundry ladles, doing away with the danger of spilling the molten metal and burning the men around, or could weld together the most resisting circumstances into a grand invention such as the steam-hammer, the steam pile-driver, or the road steam-engine, which last he invented in 1827, when he was 10

years old. The latter part of the book, wherein he tells us of his employments after retiring to enjoy a well-earned and prosperous repose is also highly interesting. The same perseverance, energy, and mental capacity which insured success in the practical business of his youth and manhood has raised him to a lofty height in scientific circles. His astronomical researches, more particularly into the structure of the sun's surface and his work on "The Moon" won him admiration and esteem from Herschel, Cardinal Manning, De la Rue, Hugo Müller, the Duke of Argyll, and many leading spirits of the intellectual world besides. A most wonder-moving part of the volume consists of a chronological list of mechanical inventions and technical contrivances, which is very full, and fills nearly 50 pages, with illustrations. There is appended to this a paper containing the author's highly original speculations as to the origin of two subjects of remote antiquity—viz., the sun ray origin of the pyramids and the origin of the arrow-head or coniform characters. The illustrations by the author's own hand show his proficiency in that which he urges all to acquire, the art of making graphic memoranda. To attain this he urges the teaching of drawing, and speaks of his power in that respect as of infinite service to him. Those who care for an unostentatious but elegant narrative of the life work of a man of exalted genius and untiring perseverance, will find, as we did, that to lay the book down before the end is reached is almost impossible. The Editor has had the *ars celare artem* that does credit to himself, and adds a charm to the book.

## LIGHTNING CONDUCTORS\*.

The want of a good practical book on the subject of Lightning Conductors accessible to the professional and the non-professional reader being, the author tells us in his preface to the first edition, a subject of remark he has endeavoured to supply that want; and, judging from the fact that a third edition is now published, he appears to have succeeded in his efforts. The historical account of the invention of the lightning-rod by Franklin, and the gradual manner in which the ignorant opposition of those who should have hailed the invention with delight was overcome, are well told, and form very interesting reading. The technical part of the book deals with the scientific question in a lucid manner, that makes even the non-professional reader think he almost understands all about it. This is due to the fact that most of the terms that by a scientific man are used every day, but are so much Greek to the ordinary reader, are explained. As in logic, so in writing on scientific subjects, the great thing is to define your terms before you argue. This the author does. Great pains have been taken to make the book complete, some 200 authorities being referred to or consulted. Cognate subjects such as the conducting property of metals, and the theory of electrical action are treated of, and some of the most entertaining chapters are those on the nature and mechanism of the thunderstorm, and the physical constitution of lightning and thunder. After treating of these scientific and somewhat absurd questions, by way of pointing out the forces with which we are dealing when we decide to put up lightning conductors, the natural sequence is followed, and the author writes equally clearly on the best materials for, and the protective power and form of the lightning conductors. This subject is gone into very fully. Foreign systems are compared with ours with diagrams and illustrations that do much to elucidate the text, and there is an appendix, consisting of abstracts of the French reports concerning lightning conductors, prepared by committees of scientific men, and received and approved by the Academy of Sciences of France. The great care and consideration required in the general disposition and adjustment of a lightning conductor is pointed out in the chapter on lightning rod engineering in England. But we think it greatly mars the effect of all this learned opening of the subject, and elaborate scientific detail, to find that all the examples given in this chapter are the work of the firm to which the author belongs. The suspicion of touting and advertising the firm, though the object of the book may not have been this, gives a feeling that a Nasmyth hammer has been bought on purpose to crack nuts. That the learning and intimate knowledge of the scientific side of the subject, which it is evident the author has, should be prostituted by being made a mere medium of advertising would be pitiful; and one cannot help hoping that the fact of those examples being given arises from their being those most within the author's own ken, rather than a desire to bring the firm's name before the public. It is, however, unfortunate that the reader's pleasure, which up to this point must be great, if he cares for a clear exposition of a subject that requires explanation, should be spoiled by the faintest suspicion of an ulterior motive having prompted writing the book. There is a chapter on conflagrations and accidents caused by lightning, with capital illustrations, that is alike curious and instructive. The fantastic and apparently wayward course of the lightning is shown to be really subject to fixed rules; and that it, like all other things in Nature, however free and uncontrolled they seem, are bound by her immutable laws. To the professional man the book is, we should say, likely to give much thought, and it may even be instructive; to the non-professional man who yet desires to know the how and why of all he can, it will certainly afford a means of gratifying his curiosity and adding to his knowledge.

\* "Lightning Conductors."—By RICHARD ANDERSON. London: Spon, Chancery Cross.

## COAL MINES TEMPERATURE, DEPTH, AND EFFECTUAL VENTILATION.\*

It is to be regretted that patient and philanthropic efforts made in the interest of the working classes, miners in particular, cannot always be turned to practical account. In a small pamphlet of some 64 pages, "On Coal Mines, their Temperature, Depth, and Effectual Ventilation," Mr. Stirik proposes a method for allowing the inflammable gases in mines to escape, and so remove a serious danger to which the workmen are liable. In his desire to do this he goes a long way in opposition to the existing ideas with respect to mines and mining. He states that large fires are kept in some of the mines constantly burning at the mouth of the ventilating shaft, which shall occasion (or are intended to) a draught sufficient to carry up the foul air, and air-pumps are added to quicken the draught. Mr. Stirik, of course, alludes to ventilation by the furnace, a system which is fast being superseded by the fan after many years of careful study he goes on to say that he has arrived at the conclusion that the present method used in ventilating coal mines directly impeded ventilation, and added to the danger of explosions. Now, the object in consuming a certain quantity of coal near to the upcast shaft is to ensure the heat being taken up uniformly by the air allowing as little as possible to be radiated or absorbed into the rock of the mine. In mines where there is a considerable discharge of fire-damp, and where the furnace is the ventilating power, the return air containing the gas is not carried over the furnace, but through a separate drift, some 20 yards above the furnace drift, so that the foul air should not be ignited. Fresh air is, of course, looked upon as the only power for sweeping away the gases found in mines, whether issuing from the mineral or produced by the breathing of the working and horses, the combustion of lights, or the fermentation of decomposed matter, and it has been found that in attempting to increase the ventilation in any mine without altering the airway, the resistance increases as the square of the velocity. The author, whilst alluding to the furnace system of ventilation, altogether omits noticing that of the furnace which is fast replacing the former as by far the most reliable and powerful, and it is said that since 1863 up to the present time there are nearly 300 of the Guibal type of fans in use in this country. Some of these can send through a mine upwards of 300,000 cubic feet of fresh air, sweeping every ward, working place, and crevice, so that an accumulation of gas should be out of the question. Indeed, the report made some years ago to the House of Commons with respect to ventilation is now more fully borne out, for it stated that "a mine when properly ventilated and drained, and when both the

main and side passages are of tolerable height is not only not unhealthy, but the temperature being moderate and very uniform it is considered as a place of work more salubrious and agreeable than those in which many kinds of labour are carried on above ground." But this is evidently not the opinion of Mr. Stirik, who speaks of the squalid hue of the miners' skins, and their sunken eyes, seeing that they are obliged to work naked. His proposal, so far as can be gathered from his own words is that the air to be removed must not be impeded, but left to follow its natural tendency—to rush out from under pressure into freedom, which can only be done by the ascending or ventilating shaft being closed. If, then, he goes on to say, a pipe or tube 18 in. in diameter be suspended from the roof of the mine for 300 yards down the way, supposing the latter to be a mile long, the tube should be 3 ft. in diameter at the mouth furthest away from the bottom of the ventilating shaft, and made 18 in. in diameter at 12 ft. from the mouth, gradually tapering, then carried up to the top of the ventilating shaft, and thence along the ground in the open, or, to protect the tube, in a drain for about 300 yards. At the end of that distance it should be carried up chimney fashion for 50 ft. The rarified air in the mine would rush into the tube, and the adhesion of the particles of the rarified air would draw all other rarified air in the mine after it. The deeper the mine the more rarified the air became, and the longer the tube or pipes the stronger the draught. Such is the scheme of Mr. Stirik, and which, if carried out, he says would allow of the miners keeping their clothes on whilst at work, so that they would not have to be naked, as they now are. Like many other proposals or schemes of non-practical men, it may look quite feasible to the author, but who, we are afraid, will find great difficulty in obtaining any mineowner to put it in practice, at least, at his own expense. Coal mines, as a rule, are now worked for a very little profit indeed for the capital expended, and as such property becomes less valuable week by week, as the mineral becomes exhausted, the owners are not likely to be tempted into trying new and costly experiment, of which the results are doubtful, whilst there is no question that the appliances at hand for securing perfect ventilation are all that could be desired for thoroughly sweeping mines with fresh air from one end to the other. The system proposed by Mr. Stirik, we are also informed, is equally applicable to underground railways, and as these increase instead of depreciating in value, and are expected to last for all time, it is to be hoped that he will be able to induce the directors of the London companies to test his scheme, which if successful might then be adopted by some of our mineowners. The author does not appear to favour the theory of central heat, although he admits that the lower we sink through the crust of the earth the heat increases in a corresponding degree. This, he says, arises from atmospheric pressure, as heat increases with the denseness and stillness of the air, and the more the air is compressed by pressure in the absence of equal pressure it acquires increased heat, which, Mr. Stirik says, affords proof equal to mathematical certainty that the increase in mines as well as caused by atmospheric pressure and the quick diurnal motion of the earth, so that the theory of central heat is altogether a fallacy. This theory is not likely to be coincided in by our mining engineers and geologists, for they know from practical experience that the air which travels far down into workings underground is very soon heated, and they are not likely to believe that the heat comes otherwise than from the bottom. In technical mining terms Mr. Stirik is evidently forgetful, for he says, "sometimes 'fire-damp' is called 'choke-damp,' meaning that the poor miners are choked." Carburetted hydrogen gas, when mixed with a certain proportion of air becomes explosive, and only requires a light to go off, and when in that condition it is termed fire-damp. On the other hand, "choke-damp" is the result of an explosion quickly following it, and principally consists of carbonic acid, which alone acts upon persons the same as poison, and when it enters the atmosphere by more than 8 per cent. there is danger of suffocation, hence the term choke-damp. However, despite the many quotations in Mr. Stirik's little work, there is evidently a strong and healthy desire on his part to do all he can to improve the sanitary condition of the working miner, and at the same time ensure for him the largest amount of safety whilst following his dangerous calling, and to the many philanthropists working in the same groove there is no doubt the book will be read with interest.

## THE PROSPECTOR'S HANDBOOK\*.

The most casual glance over the pages of this volume will show that the object of the author has been to be practical. He has not concerned himself with theories, as such, for they have really nothing to do with the matter in hand. How to find commercial minerals, and how to identify them when they are found, are the leading points to which attention is directed, and within the compass of these two heads Mr. Anderson has managed to pack as much practical detail into his 140 pages as would supply material for an ordinary book three times the size. This is one of the great merits of this handbook; another is the systematic character of the arrangement; and yet a third the plain and simple way in which the information is given. Mr. Anderson has kept clearly before him all through the fact that he was not writing a scientific treatise, but compiling a work which, if it was to answer its object, must be presented in a compact, convenient form, free from all extraneous or unnecessary matter. At the same time he has been careful, even at the risk of being thought elementary, to supply everything that experience had taught him was likely to be useful to the "prospector," or to the ordinary traveller who has a taste for practical mineralogical observations. Of course, with all the aids possible it will still remain true that a man must have a natural taste or aptitude for "prospecting" to succeed in it; but given that aptitude or taste this little guide really supplies all the information that for ordinary purposes an ordinary miner or prospector would need. There is nothing in it above his comprehension, no processes beyond his capacity of performance.

There are 10 chapters, with a somewhat multifarious appendix. The first chapter treats of the ordinary methods of prospecting, whether for alluvial deposits or lodes; while the second gives the main outlines of rock characters, formations, and conditions. The two naturally go together, and are clear and concise. Next follows a brief description of the blow-pipe and blow-pipe tests, which, what as it is, contains a large amount of information on the analysis of metallic substances. The arrangement of the tables, which show the reactions in borax and microcosmic beads, is notably a model of compactness. With this again we naturally associate chapter for which deals with the exterior characters of the leading minerals—gravity, hardness, crystalline form.

In the next place we have three chapters on the identification of special minerals and mineral compounds—metals and metallic ores; non-metallic useful minerals and ores, and rocks. The principal metallic minerals are dealt with in regard to their manner of occurrence, their crystalline or non-crystalline forms, their colour, lustre, streak, hardness, gravity of composition, and blow-pipe characters, and simple tests are given for the discrimination between those which closely resemble each other. In this way we have passed in review ores of antimony, bismuth, chromium, cobalt (3), copper (8), gold, iron (10), lead (5), manganese, mercury (4), nickel (4), platinum, silver (5), tin, and zinc (4). Gold is treated with particular fullness, the modes of its occurrence in the various gold-bearing districts explained, and the methods of discovery and working. Among the non-metallic minerals noted and described in a similar way are graphite, coal, bitumen, gypsum, apatite, alum, borax, nitre, and salt, and there is a table devoted to precious stones. With the descriptions of the more common rocks are associated descriptions of the more ordinary rock forming minerals, and of quartz, fluor, and calcite in their relations as matrices of veins.

Chapters 9 and 10 are two of the most useful in the book, giving the chief heads of the result of testing by the wet process, and a very practical summary of ready methods of assay, dry and wet, quite sufficient for the purpose of the prospector; but, of course, not pretending to render him independent of the careful quantitative

\* "James Nasmyth,"—By SAMUEL SMILES, LL.D. London: John Murray, Albemarle-street.

\* "Coal Mines: the Cause of Fixed Air, with Observations on Temperature, Depth, and Effectual Ventilation." By HENRY STIRIK. London: Edinburgh Wharfedale, Royal Exchange.

\* "The Prospector's Handbook: a Guide for the Prospector and Traveller in search of Metal-bearing or other Valuable Minerals. By J. W. ANDERSON, M.A. F.R.G.S. London: Crosby Lockwood and Co.



analysis of a professional man. To this succeeds half-a-dozen well-packed pages on the elementary features of mine surveying.

The appendix is particularly handy, containing English, French and Spanish weights and measures, tables of specific gravity, metals, ores, and rocks, the weights of the principal rocks and ores per cubic foot, the melting points of various metals, and a table of natural sizes, in which we note one of a few printer's errors that will, of course, disappear in the next edition. The size of 1°20', should be '8233, not '0283. The work concludes with a glossary, which in several particulars calls for revision. For example, "Gabbro" is not applied by petrologists to serpentine, but to an eruptive rock of which diallage is a characteristic constituent. A gunnis in a Cornish mine is a worked-out cavity. A tributer is not a miner who "pays so much to the owners of the mine," and "keeps the orestuff as his own property," but a man who receives so much in 17. on the value of the ore he raises. But Mr. Anderson's most remarkable statement, and one which we cannot at all comprehend is his definition of "roughs," as "tinstone with less than 65 to 70 per cent. of oxides of tin." Why the average produce of all the tinstone as it is raised from the mines is under 2 per cent., and the roughs, or "rows," as every tin miner knows used not many years ago to be thrown away on absolute waste. It is evident that in some way or other this glossary has escaped final revision, for there are other points to which we might refer. Nevertheless, these slips do not induce us to qualify our opinion of the high practical value of the book, the usefulness of which moreover is much enhanced by the frequent and excellent illustrations.

#### GUN V. ARMOUR PLATE.

A compound armour plate, manufactured by Messrs. Cammell and Company, Sheffield, has been tested on board the Nettle, target ship, at Portsmouth. The plate was a sample of the steel-faced armour intended for the protection of the waterline of the Galatea, now in course of construction by Messrs. Napier, Glasgow, and forming one of the squadron of belted cruisers recently ordered by the Admiralty. The plate, which was made according to Mr. Wilson's patent, measured 8 ft. in length by 6 ft. in breadth, and had a thickness of 10 in., of which two-thirds consisted of iron backing and the remaining third of a hard steel face. As the armour was the first of the kind manufactured for the cruisers, the ordeal to which it was subjected was an exceptionally severe one. It was fired at three times by the 18-ton 10 in. muzzle-loading rifled gun at a range of 30 ft., the shot being placed so as to form an equilateral triangle, of which the base and the sides were 3 ft. The projectiles used were Palliser chilled shells weighing 45 lbs., and the charges 70 lbs. each of P2 powder. The results of the trial were very successful. The whole of the shots splashed themselves in a plastic condition upon the face of the plate, part adhering upon the points of impact, and the remainder breaking up into small fragments. The first two rounds inflicted scarcely any appreciable injury, the penetration, so far as it could be ascertained, being merely nominal. The third round, in consequence of the straining of the wooden backing and the slight dishing of the plate, was more effective. Nothing more serious, however, than a few hair cracks, running down to the weld, but leaving the iron intact, were opened out, so that the plate at the end of the test was still in a condition to receive further punishment. The same firm are engaged in the manufacture of 18 in. compound armour for the protection of the turret ships Renown, building by Armstrong, Mitchell, and Co., on the Tyne, and of the Sans Pareil, building at the Thames Iron Works.

#### DETONATORS.

It is a well-established fact that, the economical effects of high explosives, such as dynamite, cotton powder, &c., depends in a great measure upon the respective strength of the detonator used in connection therewith. Of the latter some half-a-dozen qualities are manufactured—viz., simple, double, treble, quadruple, quintuple, and sextuple. Those first imported (from Germany) happened to be trebles, and this has given rise to the almost universal adoption of that particular kind among miners and others. Hence we find the term trebles a household word for detonators. It appears that of late simple and double detonators, bearing no labels whatsoever, have been in quest by some dealers, and it is not at all unlikely that these are to take the place of the well-known "trebles." Consumers ought to know this, and we have been asked by George Eggestoff's Ammunition Works to call attention to the fact that, where detonators of their make appear in the market without the distinguishing mark "trebles" they will be of weaker quality, such as "simple" or "double." The manufacturers in question deem it due to their reputation to have this well understood, inasmuch as genuine "trebles" are, as a matter of course, stronger than simples or doubles. The two last-named could be sold cheaper than trebles.

On Saturday the certificates gained by the students of the Crystal Palace Company's School of Practical Engineering during the winter term were distributed by Sir Frederick Abel, C.B., F.R.S., of the Royal Arsenal, Woolwich. The report presented by Messrs. S. C. Homersham, M. Inst. C.E., and G. G. André, A.M. Inst. C.E., was highly satisfactory. Commenting on it, Sir Frederick Abel said that he had been at pains to make himself acquainted with the working of the school, and he was struck with the thoroughness that the training imparted. He would remind the students that this training gave them advantages incomparably greater than those which most of the eminent engineers had possessed. The report was read by Mr. F. K. J. Shenton, superintendent of the Educational Department. After some remarks from Mr. André, one of the examiners, and Mr. J. W. Wilson, the principal of the school, a vote of thanks was passed to Sir Frederick Abel, on the motion of Dr. Read one of the directors of the Crystal Palace Company.

#### COMMERCIAL FAILURES.

The number of failures in England and Wales gazetted during the week ending Saturday, December 19th, was 84. The number in the corresponding week of last year was 68, showing an increase of 16, being a net increase in 1885, to date, of 656.

The failures were distributed amongst the following trades, and, for comparison, we give the number in each in the corresponding weeks in 1883 and 1884:—

|  | 1885. | 1884. | 1883. |
|--|-------|-------|-------|
| Building trades.....                   | 14    | 4     | 29    |
| Chemists and druggists.....            | —     | 2     | 1     |
| Coal and mining trades.....            | 5     | 3     | 2     |
| Corn, cattle, and seed trades.....     | 3     | 5     | 7     |
| Drapery, silk, and woollen trades..... | 7     | 5     | 26    |
| Earthenware trades.....                | —     | —     | 5     |
| Farmers.....                           | 4     | 2     | 19    |
| Furniture and upholstery trades.....   | —     | 2     | 1     |
| Grocery and provision trades.....      | 13    | 9     | 38    |
| Hardware and metal trades.....         | 4     | 1     | 5     |
| Iron and steel trades.....             | 5     | 6     | 12    |
| Jewellery and fancy trades.....        | 2     | 3     | 12    |
| Leather and coach trades.....          | 5     | 6     | 21    |
| Merchants, brokers, and agents.....    | 1     | 5     | 20    |
| Printing and stationery trades.....    | —     | —     | 6     |
| Wine, spirit, and beer trades.....     | 6     | 6     | 36    |
| Miscellaneous.....                     | 15    | 10    | 27    |
| Totals for England and Wales.....      | 84    | 68    | 267   |
| Scotland.....                          | 24    | 20    | 14    |
| Ireland.....                           | 4     | 5     | 5     |

Totals for United Kingdom ... 112 ... 93 ... 286

The number of Bills of Sale published in England and Wales for the week ending December 19 was 268. The number in the corresponding week of last year was 279, showing a decrease of 11, being a net increase in 1885, to date, of 521. The number published in Ireland for the same week was 13. The number in the corresponding week of last year was 14, showing a decrease of 1, being a net increase in 1885, to date, of 72.—*Kemp's Mercantile Gazette.*

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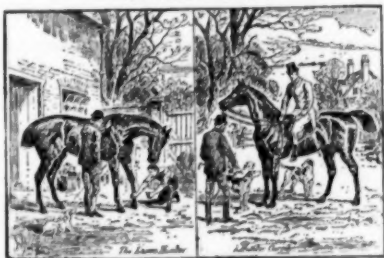
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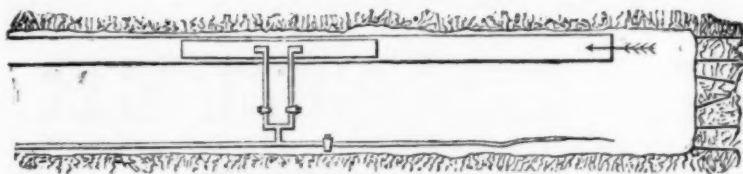
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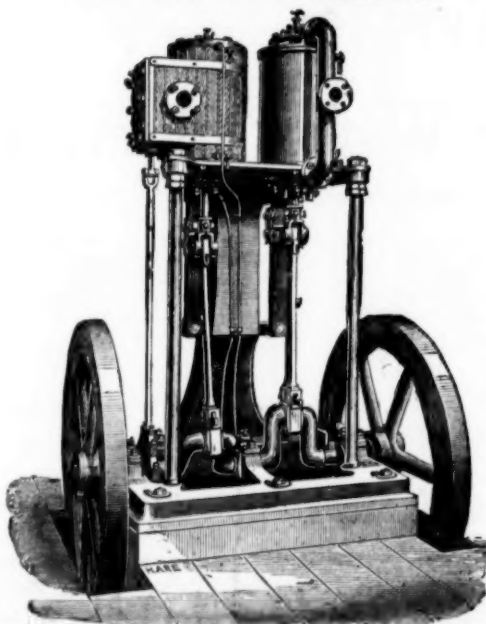
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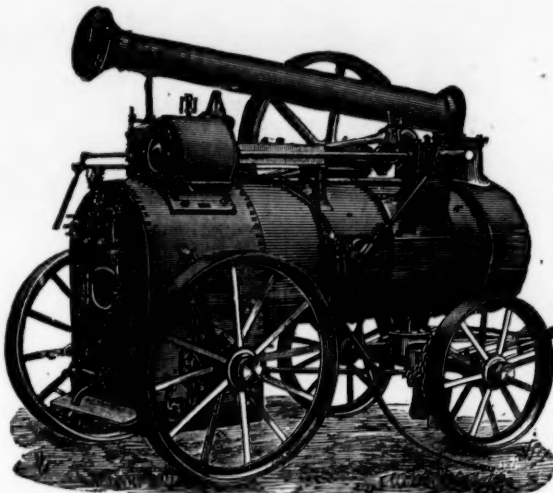
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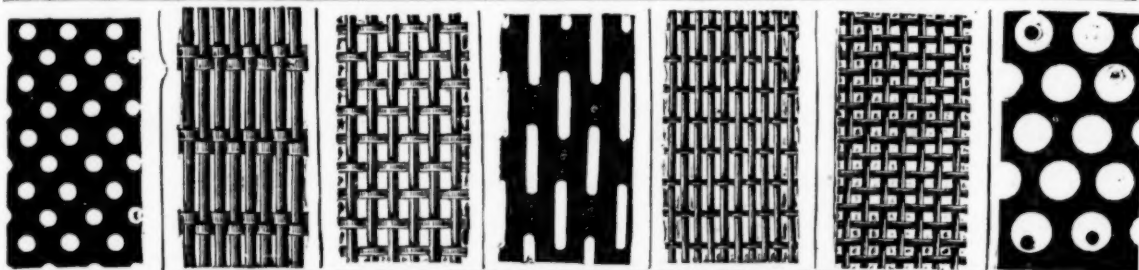
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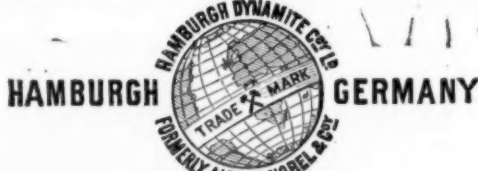
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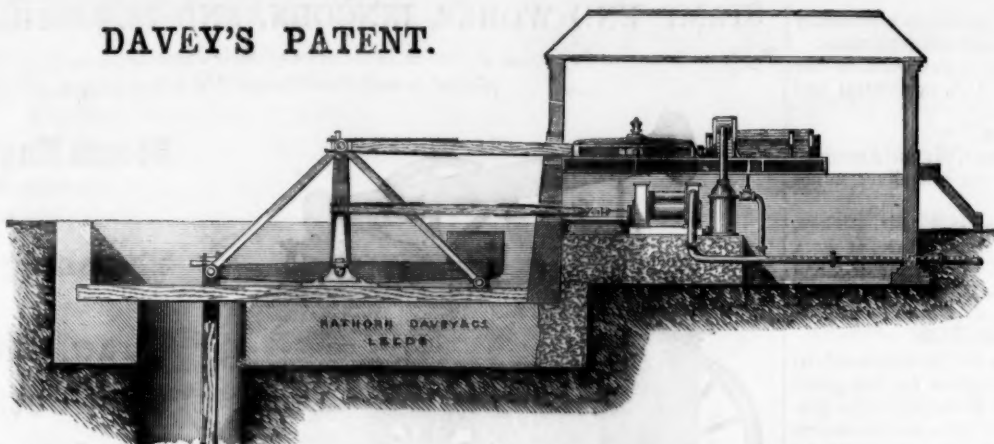
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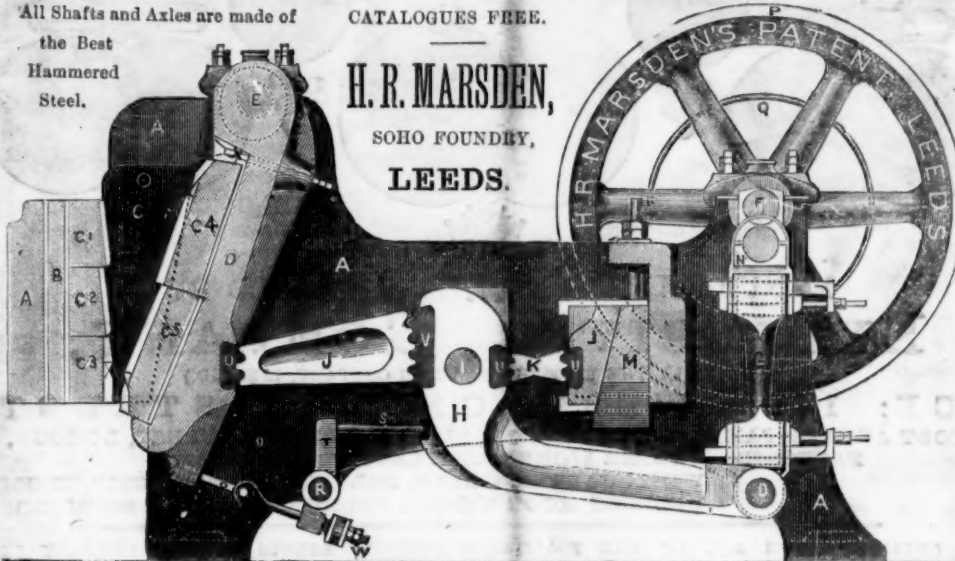
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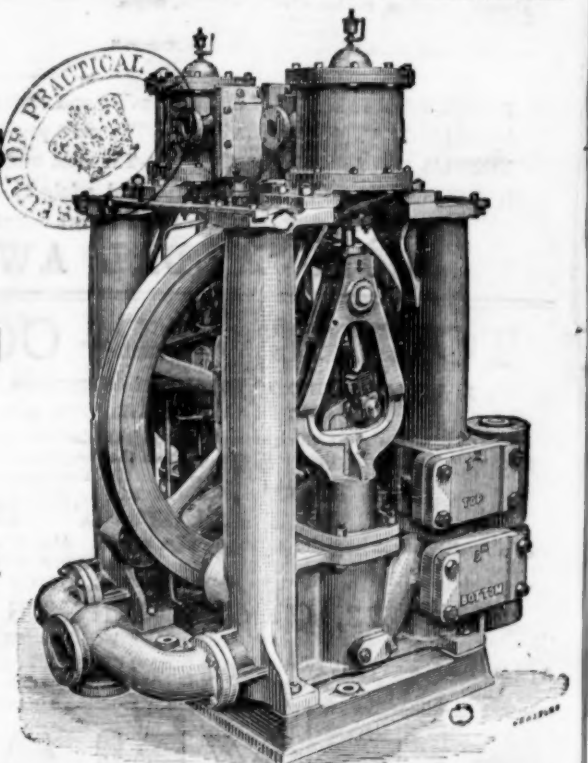
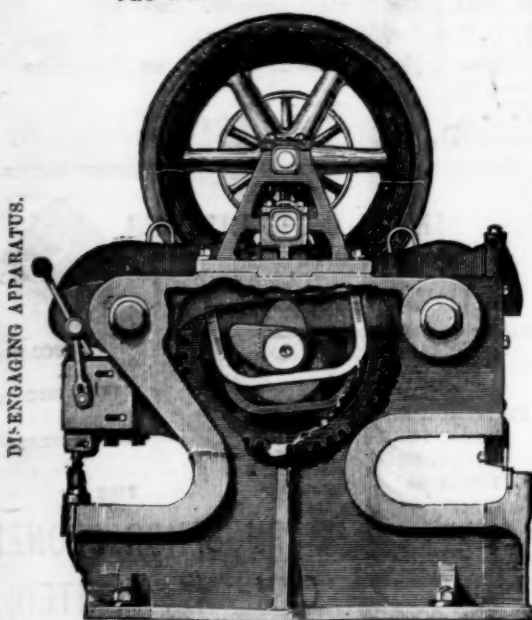
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